MODERN WORK-LIFE BALANCE: THE ROLE OF DIFFERING ICT USE

Dissertation submitted in partial fulfilment of

the requirements for the degree of

Master of Science in Applied Psychology

At the University of Canterbury

David Kunz

Supervised by Katharina Naswall and Jennifer Hoi Ki Wong

Department of Psychology

University of Canterbury

2021

Contents

Acknowledgements

Firstly, a big thank you to my supervisor Katharina Naswall for your assistance in guiding me through the dissertation process, teaching me how to use Mplus, and for providing the greatest group meetings of the whole cohort! A further thank you to both Chris Burt and Joana Kuntz for your wonderful and informative lectures that I am sure have imparted skills and knowledge that will help me for years to come.

Thank you especially to my parents who have provided ongoing emotional and financial support throughout my degree, allowing me to complete this dissertation. An additional shoutout goes to my mums cooking for keeping me fuelled enough to keep writing.

A big thank you to my best friends, Les Trois Mousquetaires: Eckies, Sobriety, and Branz for keeping me sane through all these years, especially with the endless nights on discord! And a further shoutout to the GB lads for providing constant great chats, and for being an overall ascendant group of friends.

Thank you to my APSY classmates without whom I may never have been able to deal with all the assignments. I am sure we will go down in history as the greatest cohort APSY has or will ever see!

A further thank you to all my other friends and family, who have provided me with endless conversations, hangouts, and hours upon hours of good memories.

Abstract

Work-life balance is considered as one of the most important factors in life, being one of the most discussed subjects amongst workers. Technology, especially smartphones, are becoming increasingly necessary to use in the workforce. Through their increased use, there is evidence of a decay in the borders between work and life. Thus, the present study aims to examine whether daily changes in phone use would predict daily change in work-life conflict and enrichment, as concrete signs of work-life balance. This then investigated how other variables may moderate this relationship, and whether outcome variables such as burnout, positive and negative affect, job satisfaction, and stress were predicted by this change in work-life balance. To test this, I adopted a daily diary type study, where 29 participants completed an initial questionnaire and 7 questionnaires in a week. My findings here suggest that the interaction between phone use, acceptance of phone use, and work-life permeability are predictive of decreased work-life conflict, which then predicts lower levels of burnout, job satisfaction, and negative affect. This may imply that phone use, when you are comfortable with its use, is more beneficial than not. This is especially true when paired with high work-life permeability. Contributions to the field of work-life and organisational psychology are discussed, and future directions for research are discussed.

Modern Work-Life Balance: The Role of Differing ICT Use

Introduction

You do not have to look far to see evidence that technology has had a growing influence on our lives. In 2015, more than three billion people had internet access worldwide (Colbert et al., 2016), with more than 4 billion having access in 2020. Within the first five minutes of waking up, many teenagers have already reached for their smartphone. Such teens average just over six and a half hours of screen time a day outside of school and homework (Common sense media, 2015). Similar trends are becoming typical in the workplace, as technology is becoming more ubiquitous, and fresh adults with tendencies towards technology are joining the workforce (Colbert et al., 2016).

The vast majority of adults can access internet, email, and social media right at their fingertips through their smartphone (Smith, 2015). These workers and family members can utilise these devices to communicate anywhere and at any time. Such technology allows us to extend our communication through time and space, where we do not need a person's presence or even current attention to convey information. This, combined with the more flexible work arrangements developing over the last century, allows for the creation of a timeless time. Timeless time is the cancellation of the typical foundations and sequences in society, blurring the concept of the past and future (Castells, 2013).

The changing nature of work and family has created a much greater focus on understanding how these ideas fit together. Modern families are diverging away from the traditional nuclear family into blended families, and dual-earner couples (Bianchi & Milkie, 2010), while also getting married later and less often (Raymo et al., 2021). Simultaneously, more women are in employment and older workers are retiring later (Toossi, 2012). This speaks to the much greater variety of situations and individuals that can be present in the

workforce, reducing the applicability of work-family measures and research from the past century.

On top of this, changes in technology and the growing impact of globalisation have changed the nature of workplaces entirely, increasing the demands of both work and life domains (Spreitzer et al., 2017). The strict barriers that tended to exist between work time, family time, and leisure time are fading away along with our mental borders between home and work. The level of impact that smartphones and other information and communication technologies have had on our ability to balance these domains is undoubtedly great. However, there is a distinct lack of research on this relationship, with researchers only focusing on it in the past decade (Dén-Nagy, 2014). Despite this, past researchers have predicted its dire effects on increasing the amount of spillover between each domain (Edwards & Rothbard, 2000).

An example of a way in which this has spilt over positively, known as enrichment, can be seen in a book published by Yee (2014). Here, it is established that gamers, especially those who play massively multiplayer online role-playing games (MMORPGs), manage to develop important leadership skills which translate into the workforce.

The vast majority of studies relating to the effect of Information and Communication Technologies on work/life balance have focused on how these are used outside of working hours (Hislop & Axtell, 2011). As such, much research has shown that workers who utilise these technologies to work extra hours away from the office experience significantly more blurred boundaries between work and life (Fenner & Renn, 2010; Olson-Buchanan & Boswell, 2006; Towers et al., 2006). Blurring in the other direction can be seen by engineers who use their phones consistently to contact non-work relationships during work hours (Hislop & Axtell, 2011).

As smartphones are unlikely to disappear any time soon, this developing relationship between them and the working person's work-life balance is becoming increasingly important to understand. In the current study, I will be investigating this relationship in further detail. Here, I am taking an experience sampling approach to answering the question, "Is increased phone use, as compared to a person's average levels, associated with poorer work-life balance?". This dissertation will investigate some of the plausible moderating factors in this relationship, and several outcome variables, including burnout, positive and negative affect, job satisfaction, and stress.

Theoretical Background and Hypothesis

The increasing involvement of technology in the workplace has developed entirely new requirements and competencies in the workplace. One of these primary competencies is that of digital fluency: the proficiency and comfort in achieving desired outcomes with technology (Briggs & Makice, 2012). Those who are technologically fluent may be able to use technology, manipulate information, and construct ideas in a way others are unable (Hsi, 2007). As such, it is becoming more and more necessary for individuals to be entrenched within this world of technology.

One type of technology stands out as having significantly more change and development over the past few decades. This technology in question is that of Information and Communication Technology (ICT). ICT's are technologies that can provide access to information, entertainment, and relationship building to those using them (Dén-Nagy, 2014). The primary ICT over the past half-century has been that of the Personal Computer. This has allowed workers to access various applications as well as the internet right at their desk. Workers could complete tasks and gain information within moments, which would otherwise take hours or even days to complete. For example, the invention of email allowed individuals

to communicate and send information instantly over the internet, rather than having to mail or directly deliver such information.

This technology use has shown itself as a double-edged sword of sorts (Dén-Nagy, 2014). Overuse of this same email system results in employees perceiving much higher levels of overload at work (Barley et al., 2011). This is due to email being set up in such a way that email backlogs are common and can be worsened at any time of day. This, along with the desire to not appear unresponsive, or to miss information, results in normative pressure to answer constantly (Colbert et al., 2016). Thus emails have become a symbol of excessive work demands, which distract from our problem solving, idea generation, and ability to achieve flow (Colbert et al., 2016; Jackson et al., 2001).

The latest incarnation of ICT's is that of mobile technologies or smartphones. These devices allow individuals the opportunity for receiving or initiating calls and text messages, as well as making email, social media, and internet searches available. Such functions can be utilised at any time of the day or night, allowing work-related activities to transcend the work-place (Towers et al., 2006). Such availability has resulted in the average user checking their phone up to 150 times a day, or every six and a half minutes (Spencer, 2013).

The drastic change in these technologies' availability have made it widely expected that how workplaces are organised will continue to change into the future. As such, the temporal and spatial boundaries surrounding the workplace will tend to dissolve (Kossek & Michel, 2010; Kossek, 2015). This dissolution can be beneficial, as when the work allows for discretion over where and when to do a task, smartphone use provides great productivity returns (Viete & Erdsiek, 2018). Similarly, we can see that employees who utilise smartphones can control their working environment to a greater extent than others, thus gaining increased flexibility for where and when they may complete a task (Golden &

Geisler, 2007; Hislop & Axtell, 2011; Mazmanian et al., 2013). However, such flexibility brings across similar problems to that of email. Individuals have begun to experience 'telepressure', the pressure to quickly respond to work and nonwork messages or calls. Such telepressure is significantly linked to increased burnout and decreased work-life balance satisfaction (Barber et al., 2019; Barber & Santuzzi, 2017).

The amount that one uses a smartphone has been the focus of a good deal of research, increasing over the past decade. For the purposes of this study, I will be considering phone use along the lines of a recent scale created by Leung (2020). This scale identifies the level of phone use by breaking smartphones down to their most-used components. These components include entertainment (playing games, sending pictures, watching videos), sociability (sending emails, social media, zoom), information seeking (reading news, internet searches, using the dictionary), and utility (using a compass, calculator). Combining these components should allow us to distinguish between those who use their phones often and those who practically ignore them.

Acceptance of Phone use

As a result of the explosion in smartphone use, it was inevitable that many people would approach this technology in a large variety of ways. The significant difference in how individuals approach technology is by no means unique to smartphones or other ICT's. The constant change in technological software and hardware required to perform one's job has invoked a good amount of interest amongst businesses and researchers alike. Such interest has resulted in the concept of Technology Acceptance, measured through the use of the Technology Acceptance Model (Davis, 1985). Such a model is used to understand how one's acceptance of a model is related to your actual use. Acceptance can help us to understand these technologies without straying into associations with age, which seem to be less useful

in a work context (Colbert et al., 2016). Thus, I may be able to understand the differing levels of Smartphone use among individuals through their technology acceptance.

The Technology Acceptance Model (TAM) is heavily based upon Fishbein & Ajzen's (1975) theory of reasoned action, which models the relationship between individuals attitudes and actual behaviour. Reasoned action presumes that an individual's behavioural performance is predicted entirely by the behavioural intention to perform such a behaviour.

Davis's technology acceptance model was designed to relate the psychological constructs that determine the acceptance and use of a given new technology. The modern use of the TAM specifically focuses on how individuals accept different forms of IT within organisations (Sharp, 2006). Early research into this model identified the perceived ease of use and the perceived usefulness of a given technology were the primary predictors of behavioural intention (Fred D. Davis, 1989a).

Davis (1985) defined perceived usefulness as the degree that an individual believes that a given system would enhance job performance, while ease of use was defined as the extent to which an individual believes the use of a technology to be free of physical and mental effort. Counter to the theory of reasoned action, however, it was found that attitudes toward use were not predictive of behaviour and thus have been excluded in future studies (Sharp, 2006). Furthermore, subjective norms have become a staple predictor of behavioural intention in several studies (Devaraj et al., 2008), following results implying that individuals may perform a non-favourable behaviour if motivated by a relevant peer (Davis, 1989). This inclusion of subjective norms has found further support as a factor of the TAM through meta-analysis (Schepers & Wetzels, 2007).

Further to this, perceived enjoyment has become an important addition to the TAM (Davis et al., 1992). This is the degree to which using this technology is enjoyable in its own

right, regardless of effectiveness. This factor has been established as a major factor in the motivation to use various technologies (Bruner & Kumar, 2005; Fred D. Davis et al., 1992; Lee et al., 2005). Therefore, I will be considering the TAM aspects of perceived usefulness, perceived ease of use, perceived enjoyment, and subjective norms and behavioural intention. Differing levels of this totalled technology acceptance may indicate differing approaches towards Smartphone use.

As such, this study will, in part, investigate the relationship that acceptance of smartphone use has on the level with which we use this technology. Here it is expected that greater smartphone acceptance should result in greater use. As such, I can develop the following hypothesis:

H1: Higher levels of technology acceptance will be associated with higher levels of average smartphone use.

Work-Life Balance

The impact that Smartphones have on the workforce is broad in nature, likely affecting most of our interactions in some way or another. However, one dimension of our lives is of particular importance to us and may be particularly affected by phone use. This dimension is that of work-life balance.

Work-life balance is a central concern for almost everyone throughout their everyday discourse (Boyar et al., 2012; Greenhaus et al., 2012; Kossek et al., 2014). However, despite its popularity amongst the current zeitgeist, it has remained one of the least studied concepts in work-life research (Greenhaus et al., 2012; Haar et al., 2018). Despite this lack of research, there seems to be a general consensus that employees highly value work-life balance (Kossek et al., 2014), affecting both wellbeing and productivity globally (Lyness & Judiesch, 2014).

The vast majority of work and home activities are done in different places and times, with different people (Googins, 1991). Those who perceive balance between these work and life roles tend to be more satisfied and report better physical and mental health (Brough et al., 2014; Ferguson et al., 2012; Haar, 2013; Lunau et al., 2014). As a result of this and the importance of each domain, a major goal by many is to balance the demands of work and life (Mortimer et al., 1986).

Here, balance is typically seen as a product of how people change aspects of their environment according to their preferences. Within this environment, people have various choices and spheres of influence to make this change (Covey, 1989; Weick, 1996). Such choices will be unique for each person, with their actions depending upon life values, priorities, and goals (Kossek et al., 2014).

Given that the spheres of work and home are often considered separate and contrasting, they can be considered to differ in both culture and purpose. These two life-space domains are divided by borders that vary in their level of permeability and flexibility (Sue Campbell Clark, 2000, 2002; Hall & Richter, 1988). This idea that borders exist between work and life is referred to as boundary theory (Ashforth et al., 2000; Kreiner et al., 2009). The borders in boundary theory reinforce each domains unique characteristics by shielding them from outside influences and controlling the flow between them (Sue Campbell Clark, 2000).

These borders are characterised by their permeability and their flexibility. The level of each of these factors influences our work schedules, the degree to which we can work at home, deal with family activities at work, manage our responsibilities across each, and the amount of spillover between them (Clark, 2002). Permeability refers to the degree to which aspects of one domain may enter another. Common permeability measures involve dealing

with, thinking about, or communicating with people or things from your life while at work, or dealing with, thinking about, or communicating with people from your work outside of this setting (Sue Campbell Clark, 2000, 2002). Flexibility, on the other hand, refers to the degree to which the border between work and life may contract or expand depending on the actions and demands of a given domain (Beach, 1989; Hall & Richter, 1988; Piotrkowski et al., 1987). Clark (2002) confirmed that permeability and flexibility were significantly different using factor analysis, and I will be utilising her items throughout this study.

Boundary theory defines a phenomenon referred to as role blending, which occurs when there exists both high permeability and flexibility around borders (Sue Campbell Clark, 2002). Here, employees who exhibit low levels of role blending are seen to effectively segment/separate their work and life roles (L. Duxbury et al., 2014; Nippert-Eng, 1996; Rothbard et al., 2005). Alternatively, those who exhibit high levels of role blending tend to make few distinctions between their work and life roles (Nippert-Eng, 1996; Olson-Buchanan & Boswell, 2006).

High blending can result in several unfortunate consequences, including overwork and workaholism (Eikhof, 2007), decreased psychological wellbeing (Evans & Steptoe, 2002), increased levels of stress (Sauter et al., 1990), increased conflict between roles (Bulger et al., 2007; Byron, 2005), marital and family relationship issues (Crouter et al., 2001; MacEwen & Barling, 1994), and negative influences on teamwork in the workplace (Hill et al., 1998).

As the boundary between time intended for work and otherwise is diminished with high role blending, such boundaries become increasingly fuzzy, increasing the likelihood of spillover. Work-Life spillover can be thought of as the effects of the work and life domains, which increase the similarities between the two roles (Rothbard et al., 2005). Spillover is a

combination of work-life conflict and enrichment. Here, Low conflict (Duxbury & Higgins, 2001), and high enrichment (Frone, 2003) are practical markers of good work-life balance, and thus low role blending.

Work-Life Conflict

Research on work-life conflict has detailed several specific outcomes. Such outcomes include decreased job satisfaction (Allen et al., 2000; Frone, 2003), job performance (Carlson et al., 2006; Hunthausen et al., 2003), employee strain (Nohe et al., 2015), relationship quality (Fellows et al., 2016), organization commitment and turnover (Parasuraman et al., 1989), and life satisfaction (Kossek & Ozeki, 1999). As a result of these, work-family conflict has become a much-investigated topic in today's organisational behaviour research.

Work-life conflict can be seen as conflict between roles, whereby pressures from work and non-work domains are incompatible with one another (Brauchli et al., 2011). Such non-work roles may involve friends, family, community activities, self-care (Kirchmeyer, 1992; Perry & Hammer, 2017), and leisure (Rice et al., 1992). Pressures within these roles may present themselves in a various forms (Netemeyer et al., 1996). The main forms which have been identified in the literature include time-based conflict, strain-based conflict and behaviour-based conflict (Perry & Hammer, 2017).

Along with their immediate impact, the jobs demand resources model (Demerouti et al., 2001) suggests that maintained work-life conflict affects long term psychological health, including stress and burnout (Perry & Hammer, 2017) alongside physical (Bakker et al., 2004) and behavioural (Allen & Armstrong, 2006) issues. In short: Work-life conflict is a stressful thing (Wang et al., 2010).

In this study, I will seek to further understand how work-life balance is affected by Smartphone use. The relationship between phone use and this more objective measure of

work-life balance will be compared. Furthermore, I will investigate how daily changes in conflict are affected by an individual's perception of work-life balance, and the boundary flexibility and permeability they have set, in the form of role blending. From this, I have developed the following hypotheses:

H2: Greater phone use, compared with the participant's average, will be associated with greater levels of work-life conflict compared with participant average.

H3: Higher levels of permeability and flexibility, and lower perceived work-life balance, will be associated with greater work-life conflict

RQ1: To further understand this relationship, I will investigate in which way Acceptance of phone use, perceived work-life balance, permeability, and flexibility may moderate the relationship between phone use and conflict.

Work-Life Enrichment

Past researchers in the sphere of work-life balance have been calling for greater attention to the positive side of work-life spillover (Frone, 2003; Greenhaus & Parasuraman, 2002; Hammer et al., 2003). One of the most successful of these ideas is the concept of work-life enrichment (Greenhaus et al., 2012).

The primary idea of enrichment is that work and other domains each provide a level of increased esteem, income, and other benefits which may help one perform in alternative domains (Greenhaus et al., 2012). Thus, it may be defined as the extent to which one role improves the quality of life, performance, or affect in another role. Initial evidence of this enrichment came from studies determining that synergy between work and family life existed (Barnett & Hyde, 2001) and that these are separate from work-life conflict (Butler et al., 2005; Fleeson & Gallagher, 2009). Unfortunately, compared to conflict, this has gained significantly less development (Frone, 2003).

Work-life enrichment is most similar to its predecessor, positive spillover (Crouter, 1984). This refers to moods, skills, values, and behaviour being transferred across domains to make the two domains similar (Edwards & Rothbard, 2000). However, measures for positive spillover tended to suffer improper development and validation, leading to positive spillover remaining a significantly less useful variable than work-life conflict (Carlson et al., 2006; Grzywacz & Bass, 2003).

Thus, enrichment was developed to build upon the basic notion of positive spillover. The primary distinction here is for the ability of work-life enrichment to improve the individual's life or performance in a role given this spillover, which positive spillover does not discuss. This requires not only for resources to cross the role borders but for individuals to successfully apply these towards improvement (Greenhaus & Powell, 2006).

Such enrichment is exemplified in research which suggests that those who believe their family experiences have taught them unique ways of interacting with co-workers had improved ability to multitask on the job (Ruderman et al., 2002). Similarly, analysis by Rothbard (2001) showed that greater attentiveness in a given domain resulted in long term enhanced enrichment, engagement, and positive affect in others.

Such enrichment is oft described as the opposite of conflict; however, it is more than merely a presence of low conflict and thus deserves analysis of its own. As such, similarly to work-life conflict above, I will be investigating the relationship between phone use and this alternate practical measure of work-life balance. Furthermore, I will investigate how daily changes in enrichment are affected by an individual's perception of work-life balance, and the boundary flexibility and permeability they have set, in the form of role blending. From this, I have developed the following hypotheses:

H4: Greater phone use, compared with the participant's average, will be associated with greater levels of work-life Enrichment compared with participant average.

H5: Greater permeability and flexibility, and lower perceived work-life balance, will be associated with greater work-life enrichment.

RQ2: To further understand this relationship, I will investigate in which way Acceptance of phone use, perceived work-life balance, permeability, and flexibility may moderate the relationship between phone use and enrichment.

Work-life balance outcomes

A large number of physical, behavioural, and psychological outcomes are implicated in the change of work-life balance amongst workers. As such, I have selected multiple important outcome variables for further analysis. Variables that I will be discussing are: Burnout, Affect, Job satisfaction, and Stress.

Burnout

Burnout is one of such important outcome variables which has often been significantly related to work-life balance over the past decade (Gisler et al., 2018). Burnout is a multi-dimensional construct comprised of three components: exhaustion, personal accomplishment, and cynicism. Exhaustion has shown the strongest relationship with work-life conflict of the components of burnout, followed by cynicism, and personal accomplishment (Demerouti et al., 2016). With work-life conflict as a whole being considered detrimental to burnout (Brauchli et al., 2011).

As mentioned in previous sections, I can see a changing nature of the boundaries between work and non-work domains due to the use of technology in the workplace. This change in the boundaries is seen to be especially relevant to the concept of burnout. This can be seen through the linking of burnout and increased work-related communication outside

work hours, which is mediated by conflict (Ferguson et al., 2016). Telepressure, defined as the pressure to quickly respond to both work and non-work messages and calls is also significantly related with greater burnout (Barber & Santuzzi, 2017).

Another important finding throughout the literature is that the negative effects of work-life conflict on burnout accumulate and change over time. Utilising longitudinal methods it has been found that conflict is related to increasing levels of burnout over three separate time points (Demerouti et al., 2016). Further, both work to life and life to work conflict is associated with increased exhaustion and cynicism over time (Reichl, Leiter, et al., 2014). This suggests that each direction of work-life conflict is implicated in affecting levels of burnout (Gisler et al., 2018). As a complement to this, work-life enrichment has a negative association with burnout (Peeters et al., 2005).

Due to burnouts potential place as an outcome factor for changes in our work-life balance, and phone use, I will be investigating this relationship in the current study. I will thus be examining this relationship through the lens of the following hypotheses:

H6: Greater than the persons average conflict and enrichment lower than the persons average should be associated with greater than the person's average burnout.

H7: Greater than the person's average phone use in a day should be associated with greater than the person's average burnout.

Affect

Another factor that is plausibly linked to work-life balance in the workplace is that of positive and negative affect. Positive affect refers to the degree to which someone feels alert, active, and enthusiastic, while negative affect refers to the degree that someone feels anger, nervousness and contempt (Watson et al., 1988a). Almost all research discussing the link

between affect and work-life balance has utilised the positive and negative affect schedule, the most used and well verified of such scales (Thompson, 2007a).

As affect can be seen as both a trait and a current state, it has been used in many situations with work-life balance, including as a moderator for (Allen et al., 2014) and as an outcome of work-life balance (Kulik et al., 2016). For example, Cho & Allen (2013) found evidence that negative affect can strengthen the relationship between high conflict and reduced dinner frequency. However, it can be said that the vast majority of studies assess affect as an outcome of work-life balance (Gisler et al., 2018), as I shall in this study.

Both work-life conflict and state affect show evidence of daily fluctuation and consistent change (Gisler et al., 2018; Johnson, 1997), which is why experience sampling methods have been discussed as a good way to investigate this dynamic relationship (Gisler et al., 2018). An example of this research can be seen from Almeida et al. (2016), who found that on days where employees experienced greater work-life conflict, they had higher levels of negative affect. In a similar vein, this conflict can predict greater negative affect at night (garrosa-hernandez et al., 2013). As affect is considered as a possible outcome of work-life balance I have generated a set of hypotheses:

H8: Greater conflict than the persons average and enrichment lower than the persons average should be associated with greater that their average negative affect and lower than their average positive affect.

H9: Greater than the person's average phone use in a day should be associated with greater than the person's average negative affect and lower than their average positive affect.

Job satisfaction

Through meta-analysis, it was seen that job satisfaction is the most popular indicator studied in relation to the work-life barrier (Amstad et al., 2011). This is no surprise, as job satisfaction is related to a good deal of indicators for both mental and physical health (Cooper & Faragher, 2013) and is regarded as a central aspect of well-being (Warr, 2007). Here, I am using a typical definition of job satisfaction as an attitudinal evaluation of one's job or experience on a particular workday (Heller & Watson, 2005; Ilies & Judge, 2003).

Job satisfaction has been studied as both a dependant and independent variable over the years (Chen et al., 2011; Judge et al., 2005). As an independent variable, it has shown associations with various workplace behaviour, such as manager performance, turnover intention, and project success (Bowling, 2007; Parker & Skitmore, 2005; Pheng & Chuan, 2006).

With job satisfaction's place as the most focal employee attitude (Saari & Judge, 2004), it has been theorised to directly influence employees off work lives significantly (Heller et al., 2004). We can see this in cases where employees who have higher job satisfaction manage to experience significantly greater positive affect in their home life (Judge & Ilies, 2004).

As previously discussed, role boundary theory involves the maintenance of boundaries around work-family domains (Ashforth et al., 2000). Within this, some individuals may have higher or lower levels of role blending (Olson-Buchanan & Boswell, 2006), which determines how much influence a job and its relevant characteristics may have on other domains (Kossek & Lambert, 2004). From this, I can expect the degree of role blending to drastically affect how job satisfaction is experienced for the individual.

Research has shown significant negative relationships between work-life conflict and job satisfaction (Armstrong et al., 2015). This relationship appears to be unidirectional,

whereby longitudinal research has shown conflict to predict greater levels of job satisfaction, but for job satisfaction to not predict conflict (Zhang et al., 2014). On the opposite side to conflict, work-life enrichment has shown itself to be positively related to job satisfaction (Wayne et al., 2004).

It has been said that very little research has been completed pertaining to job satisfaction within-person at the daily level, especially with work-life variables involved (Heller & Watson, 2005; Judge et al., 2005). Due to this and its remarkable close relationship with work-life balance, the current study will also look to further understand job satisfaction. I will look to find greater understanding through the following hypotheses:

H10: Greater than the persons average conflict and enrichment lower than the persons average should be associated with lower than their average job satisfaction.

H11: Greater than the person's average phone use in a day should be associated with lower than the person's average job satisfaction.

Stress

Individual's surroundings, personality traits and ability to cope with stressors all affect the stressfulness of an incident, resulting in our perceived stress (Cohen et al., 1983). Modern workers tend to experience demanding and complex job tasks, high levels of job insecurity, and increased cognitive and emotional demands. Such demands require workers to be in an ideal physical and psychological state to deal with these issues (Sonnentag & Fritz, 2015). As such, it is highly likely that the demands brought to us through the use of smartphones and the related issues with work-life balance serve to exacerbate these problems.

Such an assumption is supported by the fact that those who claim to have strong work-life balance experience lesser levels of stress than the alternative (Ross & Vasantha, 2014). Furthermore, it is seen that there is a strong positive relationship between work-life

conflict and stress, whereby conflict leads to greater future stress (Brough et al., 2014; Minnotte et al., 2013). This is exemplified with a study that examined the relationship between conflict and stress over the course of 8 years. In this study, it was found that both work-life conflict and stress mutually influenced each other over time (Westrupp et al., 2016). It is implied that this may display a reciprocal relationship, whereby work-life conflict creates greater stress, which in turn creates great conflict, thus creating extra stress etc. (Westrupp et al., 2016).

Some researchers have even divided stress into multiple work-life domains (work, family, life) to be compared with those domains specific conflict (Grandey & Cropanzano, 1999). This research found that each and every domain-specific kind of conflict were able to positively predict their respective domains type of stress. This indicates the importance of all types of work-life conflict and its root causes to the creation of stress. Research has also shown that smartphone use is directly related to increased stress (Ferdous et al., 2015). Thus I have created the following hypotheses

H12: Greater conflict than the persons average and enrichment lower than the persons average should be associated with greater than their average stress.

H13: Greater than the person's average phone use in a day should be associated with greater than the person's average stress.

The Current Study

From the above literature summary, I have described research on the modern impact of smartphones in the workplace on work-life balance. Furthermore, I have described how this work-life balance may manifest itself and a number of outcomes to this work-life balance, including burnout, positive and negative affect, job satisfaction, and stress.

Much of this previous literature, however, misses the 'life' in work-life balance. Modern individuals, especially workers, may not have the typical 'family' life, which is expected through much of work-family research. The vast majority of research focuses primarily on family, without considering people's broader lives, including community, leisure, church, sport, and other activities (Hall et al., 2013). As such, more research is needed that can underpin how the discussed relationships may work in the context of questions aimed towards life rather than just family. Such a changed focus can help us to gain increased incremental validity above and beyond family research (Keeney et al., 2013).

A review by Casper et al. (2007) indicated that much research on work-life balance failed to use longitudinal designs, examine dynamic work-life relationships, or use enough outcome measures in their studies. As a result of this, work-life balance research has in and of itself failed to develop many practical implications for people and business to manage this balance (Kossek et al., 2011).

Research in general for the positive outcomes of work-life balance has been relatively slow to accumulate (Boyar et al., 2012; Greenhaus & Allen, 2011), resulting in a relatively grim outlook for much work-life research. This, combined with the aforementioned lack of practical implications, makes many of these relationships seem like a lose-lose situation. It is hoped that by taking a more modern approach to work-life balance and assessing modern smartphone use, I may be able to glean some positive implications. It has been said that work-life balance research and positive psychology may be an ideal fit (Greenhaus & Allen, 2011). Such a blend may open up the door for future research to investigate how this may improve leadership, positive change, work engagement, and overall wellbeing, as are much of positive psychologies focus (Donaldson & Ko, 2010).

Smartphones have been associated with work-life balance, but the causes of this effect and possible differences in this overall relationship are barely explored. This is likely exacerbated by the relative lack of research that focuses on the modern uses of the smartphone, which are worlds apart from their early 2000's predecessors. As such, I believe it is important to take a look at the smartphone to work-life balance relationship with a more modern lens. Furthering this, technology acceptance can provide us with a possible causal dimension for differences in smartphone use and its effect on work-life balance. This works in parallel with the calls for the Technology Acceptance Model to be used as a mediator in relationships more often (Venkatesh, 2000; Venkatesh & Brown, 2001).

Finally, less than 25% of empirical studies over the past decade, examining work-life balance have utilised ESM, longitudinal, or experimental designs (Gisler et al., 2018). Following this, it is suggested that many relationships between work-life balance and other variables may be completely different when analysed over time (Bono et al., 2012; Frone et al., 1997; Shockley & Allen, 2013; Wang et al., 2010). This is especially true with work-life balance related variables that fluctuate daily (Almeida et al., 2016).

Experience Sampling/ Methods

The past few decades have seen a drastic rise in the within-person (Beal & Weiss, 2003; Dalal et al., 2014) and person-centric work psychology perspectives (Weiss & Rupp, 2011). Such perspectives personify the use of Experience Sampling Methods (ESM). ESM involves participants completing questionnaires one or more times each day in order to provide reports of thought, behaviour, context, and emotions (Beal, 2015). This group of methodologies allows us to better address dynamic psychological processes while simultaneously addressing recall biases and increasing ecological validity (Myin-Germeys et al., 2018; Trull & Ebner-Priemer, 2014). Such a focus on ecological validity can be made

even stronger through the use of Smartphones to more easily gain access to participant experience (Larson & Csikszentmihalyi, 2014).

ESM has been referred to as a technique that allows us to 'open the black box of daily life' (Myin-Germeys et al., 2009). Historically, this has more or less been used as an umbrella term for a number of variations and names which can be considered interchangeable, including ecological momentary assessment (Beal & Weiss, 2003), ambulatory assessment (Trull & Ebner-Priemer, 2013), everyday experience methods (Reis & Gable, 2000), and daily diary methods (Bolger et al., 2003). The final of which we have used for this study, which is a version of ESM where measures are assessed once at the end of each day. Each of these methods share a determination to capture a range of experiences as they occur in the real world, seeking greater ecological validity (Beal, 2015).

ESM is useful as it allows researchers to tailor their study to the range of time, which matches the flow of the changes they would like to measure, whether that be hourly, daily, or weekly (Beal, 2015). As people aggregate their experiences over longer and longer periods, their reports tend to increasingly reflect the difference between individuals rather than the difference within individuals (Beal, 2015). The aim of utilising ESM then is for us to be able to focus more upon how individuals change over discreet periods of time.

An analysis by Kahneman et al. (2004) showed that reporting of experiences could become very quickly biased through mental aggregation (e.g. Fredrickson & Kahneman, 1993; Redelmeier & Kahneman, 1996), which implies that even over brief intervals, remembered experience is different from that of immediate experience (Huppert et al., 2005). On top of this, it has been argued that although instantaneous experience has its uses, one's interpretation of a given episode of experience shortly following this episode may be more useful (Bakker & Daniels, 2012; Beal et al., 2005). Thus, I have opted for a daily diary

structure to my data collection in an attempt to gain the benefits of an improved focus on within-person differences from a recent measure and the gain from the interpretation of events.

On top of its more person-focused methodology and high ecological validity, ESM has the benefit of reducing the impact of self-enhancement bias, which is common in self-report (Mabe & West, 1982). This self-enhancement bias, especially when present across multiple measures, can cause inflated correlations between these variables. However, as ESM tends to focus on centred within-person data points (Enders & Tofighi, 2007), inflated scores become essentially eliminated from analysis (Beal, 2015).

A particular issue of ESM studies is the high amount of missingness that is often present within its data. A review of missingness within ESM studies showed an average response rate amongst participants of 77% (W. Hofmann & Patel, 2015). Whether this missingness is due to missing prompts or intentional design, it is concerning how few of these researchers address their missingness (Silvia et al., 2013), with even fewer utilising methods such as full information maximum likelihood imputation to remedy this (Beal, 2015).

Summary

In summary, the current study seeks to further identify the relationship between smartphone use and modern worker's work-life balance. I am assessing measures of technology acceptance, phone use, work-life perception, role blending, and spillover to investigate this. To assess whether such relationships are positive or negative regarding the worker, I am also investigating how these affect several outcome variables. These outcome variables include burnout, affect, job satisfaction, and stress. To understand how these relationships play out in participants' actual lives, I have decided to take an experience sampling approach. Here, full-time workers from New Zealand and Australia will be tasked

to complete daily questionnaires over the course of a week. It is hoped that this study may be able to get us closer to providing the practical implications that past work-life balance research has sorely lacked (Kossek et al., 2011).

Method

Participants

Participants were recruited via convenience sampling through personal networks such as friends, family, and colleagues. In total, 33 participants contributed data through the course of this research. Participants were composed entirely of adult (18 or older) full-time workers. Out of the 33 participants who participated, 4 had to be removed for failing to complete at least 4 of the 7 daily surveys. This resulted in a final participant number of 29, which is in line with the sample range of 22-50 used in other recent research utilising similar designs (Bailon et al., 2019; Pos et al., 2018; Wohlfahrt-Laymann et al., 2019). The majority of these 29 participants resided in New Zealand, although a total of 6 participants resided in Australia. The 29 participants who remained showed a Mean response rate of 87.7% (100% Median and Mode), which is higher than the 77% average response rate for other daily diary and ESM studies shown in a meta-analysis by Hofmann & Patel (2015). This response rate was calculated as the number of days in which a participant completed a survey. Participants were offered a token of appreciation in the form of a $20 voucher for completing the study.

Participant recruitment primarily involved e-advertising through the use of Facebook and LinkedIn, an example of which can be seen in Appendix A. This was augmented with snowball sampling, whereby participants, as well as other non-working contacts (such as family) would send an invitation to participate through their networks, typically as a forwarded email. An example of the snowball sampling invitation can be seen in Appendix B. Participants were required to have owned a smartphone which is capable of accessing

Qualtrics, and to be working full time. Participants were not restricted based on age (for those over 18), gender, or ethnicity.

Ethical approval

This project was reviewed and approved by the University of Canterbury Human Ethics Committee. HEC Reference number: HEC 2020/120

Design

The current study follows a daily diary design, a variation of experience sampling whereby participants are measured each day of the week. Data was obtained using an initial questionnaire, and 7 daily questionnaires. The daily questionnaires involve several within-person measures, which are presumed to vary on a daily basis (Level 1). The initial questionnaire assesses baseline versions of daily measures, as well as other person level variables which were expected to not vary over the course of a week (Level 2). Thus, this study involves daily data nested within participants.

Procedure

Following online recruitment through e-advertisement or emails, each participant provided their emails alongside displaying interest. Here, participants would indicate which week they would be able to participate in. On the Wednesday prior to their designated participation week, the initial questionnaire was sent to each relevant participant. Participants were told that this must be completed before the Monday of their participation week. Each questionnaire was presented via a personalised link to the Qualtrics platform (Qualtrics, Provo, UT) sent to participants through an email (Appendix P). The first questionnaire briefed participants through an information sheet (Appendix D), where they were also informed that participation is confidential, and voluntary. Informed consent was then acquired from all participants, through a consent form (Appendix C). Participants complete

baseline versions of all measures, which involved the initial questionnaire's unique measures of: Technology acceptance, Perceived work-life balance, Work-life permeability, and Work-life flexibility. Items in this questionnaire had their wording changed to reflect a focus on typical/average days and experience.

For each day of the week of participation (Monday-Sunday), participants were provided with another link to a questionnaire through a pre-generated email (Appendix Q). These daily questionnaires were sent to participants at 4:30Pm in their respective time zones to ensure all participants saw the email. Participants had until midnight that night to complete the questionnaire, before the survey link would deactivate. Participants were instructed to complete this questionnaire as late in the day as possible, to ensure it encompassed the most daily events. This daily questionnaire involved: Phone use, Work-life conflict, Work-life enrichment, Burnout, Job satisfaction, and stress.

Measures

Initial survey: Technology acceptance

Technology acceptance was measured with a 14-item scale assessing the perceived usefulness, perceived ease of use, perceived enjoyment, subjective norms, and behavioural intention surrounding a given technology. This scale was originally developed by Davis (1989), but has been expanded and improved in later studies (Davis et al., 1992; Taylor & Todd, 1995; Venkatesh et al., 2008; Venkatesh & Davis, 1996). Example items are as follows; "I find my smartphone to be useful in my job" (Perceived usefulness), "I find my smartphone to be easy to use" (Perceived ease of use), "Using my smartphone can be enjoyable" (perceived enjoyment), "people who are important to me think that I should use my smartphone" (Subjective norms), "Given that I have access to my smartphone, I intend to use it in the future" (Intention to use). Components of this measure have been shown to have

a reliability between .80 and .95 (Venkatesh et al., 2008). Reliability was .814 for the current study. This scale as presented to participants can be seen in Appendix E.

Initial survey: Perceived work/life balance

A three item scale developed by Haar (2013) was used to assess how participants perceive their general work life balance. This measure was specifically designed to use a broad approach, and better fit the more diverse family/life continuum of the modern workforce. Each item is assessed on a 7-point Likert scale ranging from 1 = strongly agree to 7 = strongly disagree. An example item is "I am satisfied with my work-life balance, enjoying both roles'. This measure had been validated across multiple New Zealand national samples (Haar, 2013; Haar et al., 2014). Reliability was .731 for the current study. Here, higher scores imply worse work-life balance, while lower scores imply better work-life balance. Reliability scores have been found at 0.80 and 0.74. This scale as presented to participants can be seen in Appendix F.

Initial survey: Work/life permeability

Permeability of the work/life border was assessed with a modified version of the twelve-item scale created by Clark (2002). Example items of this include "I stop in the middle of my work to address other life concerns", and "I receive work related calls outside of work". To shorten the length of this questionnaire, the two components with the lowest factor loadings for the life and work borders were removed. This included the removal of: "I have family related items at my workplace", "I think about my family members when I am at work", "I have work related items at my home.", and "I think about work related concerns when I am at home". This reduction in length also brought it in line with the number of work/life flexibility questions (8). This has previously shown a Cronbach's alpha range of .80

and .89 (S. C. Clark, 2002). Reliability was .785 in the current study. This scale as presented to participants can be seen in Appendix G.

Initial survey: Work/life flexibility

Flexibility of the border between work and life is measured using an 8 item scale developed by Clark (2002). Items used a 7-point Likert scale ranging from 1 = never to 7 = always. Wording for these items are changed to apply to a life, rather than purely family context. Example items include "I can arrive at and depart form work when I want to", and "I can easily work an extra day when I want to". This has previously shown a Cronbach's alpha of 0.70 and 0.80 (S. C. Clark, 2002). Reliability was .761 for the current study. This scale as presented to participants can be seen in Appendix H.

Daily survey: Job burnout

Burnout was measured using 3 items from the Maslach burnout inventory (Maslach & Jackson 1981). Originally designed to measure a syndrome of emotional exhaustion, depersonalisation, and reduced personal accomplishment, the Maslach Burnout Inventory has become the primary method for researching and diagnosing burnout. Coded 1 = totally disagree, to 7 = totally agree. An example item is "today, I felt emotionally drained from my work". This scale has been shown through meta-analysis to have typically good reliability with alpha statistics between .70 and .90 (Wheeler et al., 2011). Reliability was .933 for daily and .875 for initial in the current study. The wording of some portions of this measure have been altered between the initial and daily questionnaires, to better fit their context. Both versions of this scale as presented to participants can be seen in Appendix I.

Daily survey: Work-life Conflict

Work-life Conflict is a measure used to operationalise the state of an individual's work/life balance. Work/life conflict has been measured using 6 items from a measure created by Carlson et al. (2000). This measure is assessed on a 7-point Likert scale ranging from 1 = strongly disagree, to 7 = strongly agree. Example items are "Today, due to all the pressures at work, I came home too stressed to do the things I enjoy", and "Today due to stress outside of work, I was preoccupied at work". In the past this measure of work-life conflict has shown Cronbach's alpha of .78-.87 (Carlson et al., 2000). Reliability was .754 for daily and .483 for initial in the current study. The wording of some portions of this measure have been altered between the initial and daily questionnaires, to better fit their context. Both versions of this scale as presented to participants can be seen in appendix J.

Daily survey: Work-life Enrichment

Work/life enrichment is another measure used as a component of operationalised work/life balance. Work/life enrichment was assessed using 6 items designed as an expansion of and companion to the previous work/life conflict measure (Carlson et al. 2006). This measure is assessed on a 7-point Likert scale ranging from 1 = strongly disagree, to 7 = strongly agree. Example items include "My involvement in my work makes me feel happy and this helps me be a better family member" and "My involvement in my life outside of work helps me to gain knowledge and this helps me be a better worker". This measure of enrichment has shown a Cronbach's alpha of .92 (Carlson et al., 2006). Reliabilities were .878 for daily and .841 for initial in the current study. The wording of some portions of this measure have been altered between the initial and daily questionnaires, to better fit their context. Both versions of this scale as presented to participants can be seen in appendix K.

Daily survey: Affect

The Positive and Negative Affect Schedule (PANAS) was originally created by (Watson et al., 1988b) in the form of a 20-item questionnaire, whereby 10 questions would assess positive affect, and 10 would assess negative affect. This schedule has been used in a countless number of studies throughout the years, as a mainstay of affective research. However, the original PANAS is too long in situations where a reduction in time may be important (Thompson, 2007b). Thus, the International Positive and Negative Affect Schedule Short-From (I-PANAS-SF) created by (Thompson, 2007b) will be used. The five positive affect items are: Active, determined, attentive, inspired, and alert. The five negative affect items are: afraid, nervous, upset, hostile, and ashamed. Participants were asked to rate to what extent they currently felt for each item from a scale of 1 = Not at all to 7 = Extremely. This has displayed a Cronbach's alpha of .78 for the positive half, and .76 for the negative half (Thompson, 2007). Reliabilities were .827 for daily and .781 for initial positive affect, and .787 for daily and .747 for initial negative affect in the current study. This scale as presented to participants can be seen in appendix L.

Daily survey: Job satisfaction

Job satisfaction has been measured using the short form of the Brayfield & Rothe, (1951) Job Satisfaction Index. This scale attempts to measure the affective state individuals have about their current job. This is assessed with 5 items on a 7-point Likert scale ranging from 1 = strongly disagree, to 7 = strongly agree. A sample question is "Most days I am enthusiastic about my work". This has displayed reliabilities of .70 to .75 (Brayfield & Rothe, 1951; Ho & Au, 2006). Reliabilities were .660 for daily and .714 for initial in the current study. The wording of some portions of this measure have been altered between the initial and daily questionnaires, to better fit their context. Both versions of this scale as presented to participants can be seen in appendix M.

Daily survey: Stress

Perceived stress will be measured using the 4 item perceived stress scale (PSS-4) developed by Cohen et al. (1983). Here, respondents rated four items on a 7-point Likert scale ranging from 1 = never, to 7 = very often. An example item is "In the last day, how often have you found that you could not cope with all the things that you had to do?". Here, Cronbach's alpha ratings range from .73 to .82 (Lesage et al., 2012; Mitchell et al., 2008). Reliabilities were .696 for daily and .780 for initial in the current study. The wording of some portions of this measure have been altered between the initial and daily questionnaires, to better fit their context. Both versions of this scale as presented to participants can be seen in appendix N.

Daily survey: Smartphone/ICT use

Daily ICT use will be assessed through the smartphone activities scale recently developed by Leung (2020). To assess smartphone activities, respondents are asked to report how often they use 19 features of their smartphones in four main functional domains: Entertainment, sociability, information seeking, and utility. However, this was shortened by removing the utility section of this scale, to reduce the time spent by participants. As such, this scale involved 13 questions assessed with a 7-point Likert scale with 1 = never and 7 = very often. Respondents are asked "How often do you use the following features of your smartphone?", and an example item is "watching livestreaming or pre downloaded video". The Cronbach's alpha values for these activity types ranged from 0.69 to 0.76 (Leung, 2020), for my study this was .826 for daily and .798 for initial. The wording of some portions of this measure have been altered between the initial and daily questionnaires, to better fit their context. Both versions of this can be seen in appendix O.

Analyses

Before hypothesis testing, the data in this study required reformatting before it could be used. Specifically, the data was reformatted from wide format to long format. The rows in this format each had a code pertaining to the day of collection, ranging from 1 to 7 (1 = Monday, 7 = Sunday). Here, the initial version of each level 1 variable was assigned as its own level 2 variable.

Next, Expectation maximisation (EM) imputation was utilised to deal with the missingness within the data. EM imputation was computed using SPSS statistics 27. The imputation process showed a significant chi-square for Little's MCAR test ($\chi 2$ = 1686.332(1559), p = .013), implying that the data was not missing completely at random (MCAR). To further investigate the source of this missingness, I completed another missingness analysis, excluding weekends. Here, Little's MCAR test was no longer significant ($\chi 2$ = 1040.568(986), p = .111). This change in chi-square significance implies that results from Monday to Friday were missing completely at random (MCAR), whilst results from Saturday and Sunday were missing at random (MAR) due to missingness likely being associated with the day variable (Graham, 2009). Participants are typically less likely to respond on weekends in daily diary type studies (Rendina et al., 2016), thus this missingness pattern was expected.

Missingness can prove detrimental in research, as it drastically increases the error in parameter estimates, resulting in power loss (Little & Rhemtulla, 2013). Estimates and power suffer most when estimations involve variables from multiple item sets (Rhemtulla et al., 2014), which is common in much psychological research. Typically, many statistical methods and programs will automatically utilise pairwise and listwise deletion to deal with missingness (Palmer & Royall, 2010). However, only using complete cases in your analysis

can lead to needlessly degrading the final sample, decreasing statistical power and causing selection bias, reducing generalizability (Allison, 2001). In contrast, imputation methods have significantly reduced error in parameter estimation compared to pairwise and listwise deletion while maintaining power and generalizability (Graham, 2009; Little & Rhemtulla, 2013; Newman, 2003; Palmer & Royall, 2010). Through their review of ESM usage in organisational research, Beal (2015) stated that imputation of missing data is much rarer throughout this research than it should be. Despite these methods' underutilisation, it is considered remiss for any researchers not to deal with missingness through the various methods of imputation (Palmer & Royall, 2010). I chose Expectation Maximisation imputation as my method of choice due to its simplicity and convenience, which can be used alongside data cleaning and reformatting in SPSS.

Daily measures involving the same individual are not independent of one another, resulting in a hierarchical data structure where repeated measures are nested within individuals. This structure leads to utilising a two-level model with the repeated measures (7-days) at the day level (Within-person, n = 203 data points) and the participant number and baselines at the person-level (Between-person, n = 29 participants). This data is here treated as multi-level, and thus multi-level modelling (MLM) is considered the most appropriate method for analysis (Nezlek, 2011; Snijders & Bosker, 2011). This multi-level modelling was computed with Mplus8 (Muthén & Muthén, 2017).

To gain unbiased estimates of the hypothesised relationships, I use centred scores for the analyses (D. A. Hofmann & Gavin, 1998). Variables at the day-level (Level 1, i.e. Work-Life Conflict) were centred to the individual’s mean, representing a person’s daily fluctuations from their average for the week, and person-level (Level 2, i.e. Work-Life Perception) were centred to the grand mean. This centring method is consistent with Ohly et al. (2010) recommendations for analyses in daily-diary studies.

Results

Descriptive statistics

Descriptive statistics for all variables were calculated prior to person mean and grand mean centring. A full table of the descriptive statistics of the variables used in this study describing mean, standard deviation, min, max, and Cronbach's alpha statistics can be seen in Appendix R. Participants' tended to report low levels (1-2.9) of phone use (M = 1.775), conflict (M = 2.555), burnout (M = 2.031), negative affect (M = 1.290), and stress (M = 1.972) daily. Similarly, participants tended to report moderate levels (3-5.9) of enrichment (M = 4.689), positive affect (M = 4.283), and job satisfaction (M = 4.972) daily. For initial 'typical' reported variables, participants reported typically low levels of phone use (M = 2.675), burnout (M = 2.954), negative affect (M = 1.290), stress (M = 2.138). Participants also reported typically moderate levels of conflict (M = 3.477), enrichment (M = 5.494), positive affect (M = 4.476), job satisfaction (M = 5.697), technology acceptance (M = 4.549), work-life balance perception (M = 4.333) permeability (M = 3.547), and flexibility (M = 4.177).

Following this, I computed correlations for both the within-person variables (Level 1) and the between-person variables (Level 2) through Mplus to ensure the hierarchical structure was accounted for. These correlations can be seen in Table 1, where values above the centre line are within-subjects, and those below are between subjects. From these correlations, we can glean an early sign of possible hypothesis support.

Between person scores were calculated using person mean aggregated daily data scores to be properly compared with person-level data. First, I looked at how these aggregated daily scores correlated with their baseline values recorded in the initial questionnaire job satisfaction (r = .253, p = .004), negative affect (r = .101, p = .023), positive affect (r = .451, p = .002), and burnout (r = .410, p = .030) were all significantly and positive correlated with their initial values. However, conflict (r = .082, p = .358) was not significantly correlated

with its initial value, indicating that global, general perception of conflict may not be the same as experienced daily conflict.

To gain an initial idea of the relationships between the variables which will be used to test my hypotheses, I looked at several of their correlations. Technology acceptance is slightly negatively correlated with smartphone use (r = -.089, p = .057). Permeability was significantly negatively correlated with work-life conflict (r = -.292, p = .041), while flexibility was not correlated (r = .099, p =.446). This result possibly indicates that permeability is protective against conflict. However, work-life perception was significantly correlated with conflict (r = -.248 p = .032), whereby rating the work-life balance as better is associated with reduced conflict. Neither permeability (r = .019, p = .892) or flexibility (r = -.132, p = .342) correlated with work-life enrichment. However, work-life perception was significantly correlated with enrichment (r = .251, p = .043), whereby rating work-life balance as better is associated with higher enrichment.

At the within level, almost all the correlations between the constructs were significant. This high amount of correlation indicates that these variables, or the changes in such, are associated across the days of the week. This was not the case with phone use, which was only correlated with enrichment (r = .094, p = .001), and positive affect (r = .083, p = .003).

Conflict (r = .480, p < .001), and enrichment (r = -.172, p = .035), were both significantly correlated with burnout in an expected direction. These correlations indicate that greater burnout is associated with greater conflict and lower enrichment. Conflict (r = -.168, p = .008), and enrichment (r = .392, p <.001) were also significantly correlated to positive affect in an expected direction. These results show that lesser conflict and greater enrichment are associated with higher positive affect. For negative affect. conflict (r = .136, p <.001) and enrichment (r = -.065, p = .042) are also significantly correlated in the expected direction.

Table 1. With-person, and Between-person correlations.

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 Phone use	-	.005	.094***	-.036	.083***	.015	-.033	-.006												
2 Conflict	-.013	-	-.234***	.480***	-.168***	.136***	-.351***	.187***												
3 Enrichment	.081*	-.114	-	-.172**	.392***	-.065**	.357***	-.126***												
4 Burnout	-.027	.309***	-.098	-	-.039	.183***	-.300***	.232***												
5 Positive Affect	.070	-.151*	.263***	-.049	-	-.051	.272***	-.158***												
6 Negative Affect	.016	.099**	-.030	.104**	-.031	-	-.115***	.159***												
7 Job satisfaction	-.026	-.215***	.199**	-.240**	.229***	-.090**	-	-.299***												
8 Stress	-.018	.143**	-.110*	.150**	-.158**	.113**	-.187***	-												
9 Initial Burnout	-.137*	.089	.008	.410**	-.109	.065	-.093	.052	-											
10 Initial Positive affect	.053	-.263**	.189	-.225	.451***	-.113*	.280**	-.213**	-.318	-										
11 Initial Negative affect	-.036	.083	-.170**	.110	-.170*	.101**	-.108	.158**	.178	-.246**	-									
12 Initial Job satisfaction	.056	-.147*	.186**	-.216**	.176***	-.033	.253***	-.163**	-.327	.355***	-.153*	-								
13 Initial Stress	-.012	.079	-.097	.118	-.146**	.071**	-.159**	.172***	.064	-.188**	.179**	-.193**	-							
14 Work-Life perception	.134**	-.248**	.251**	-.281**	.287**	-.031	.217**	-.163*	-.448**	.453**	-.271**	.444***	-.236**	-						
15 Permeability	.015	-.292**	.019	-.448**	.019	-.009	.252*	-.121	.140	.171	.258*	.139	-.002	-.022	-					
16 Tech acceptance	-.089*	-.067	.199**	-.041	.075	.015	.043	-.005	-.085	.081	-.110	.101	-.111	-.22*	.092	-				
17 Flexibility	-.086*	.099	-.132	-.115	-.184	-.006	-.099	.012	-.171	-.075	.147	.045	-.035	-.034	.346	-.145	-			
18 Initial Phone use	.125***	-.029	.144*	-.074	.024	.012	-.020	-.045	.009	.008	-.126*	.093	-.050	-.230**	.186	-.213**	.221*	-		
19 Initial Conflict	-.058	.082	-.014	.134	-.044	.033	.020	.302	.493**	-.133	.200**	-.141	.074	.372**	.304*	.105	-.013	-.037	-	
20 Initial Enrichment	.105**	-.197**	.274**	-.223*	.159	-.051	.126	-.152*	-.071	.382	-.268**	.224**	-.179**	-.420**	.167	-.291**	.041	.271***	-.093	-

Note: correlations above the centre line are within subjects, while those below the centre line are between subjects. ***. Correlation is significant at the .01 level. **. Correlation is significant at the .05 level. *. Correlation is significant at the .1 level

In the case of job satisfaction, we can see a similar set of results. Here, conflict (r = -351, p <.001) and enrichment (r = .357, p <.001) are each significantly correlated with job satisfaction in their respective hypothesised directions. This result implies that less job satisfaction is associated with greater conflict and lesser enrichment. Finally, stress is significantly correlated with conflict (r = .187, p <.001) and enrichment (r = -.126, p = .004) in expected directions. Here, greater stress is associated with greater conflict and less enrichment.

The final step I completed before moving on to hierarchical linear analysis was first testing an unconditional model within MPlus. An unconditional model such as this allows me to assess the intra-class correlation coefficients (ICC) of the within-individual variables. Typically, a high ICC (.5 or more) is considered as excellent (Liljequist et al., 2019), with the vast majority of variables having quite low ICC values (Musca et al., 2011). This score describes how much of the variance of a variable is between-subjects versus within subjects, with a higher ICC implying greater between-person variance. Here I am using ICC to identify whether a nested structure is necessary for analysing the relationships between variables in question. Here, it is considered that an ICC cut-off of .2 or higher shows that it is necessary to use a nested analysis structure such as MLM for the data (Musca et al., 2011).

Intra-class correlation coefficients can be seen in Table 2. These values show that these within person-variables each have substantial between-person components to their variance. As each is above the cut-off of .2, I can conclude that the nested structure is important for analysing this data, and thus a hierarchical linear model is appropriate.

Hypothesis testing

For my multi-level hypothesis, I have decided to present unstandardised coefficients (b-weights represented by *b*). This has been argued to give the most accurate representation

of the model at hand (Raudenbush & Bryk, 2002). The first model, along with this, can be seen in Table 3.

Table 2. Intra-individual correlation coefficients for within-subject variables.

Variable name	*ICC* value
Phone use	.651
Work-Life Conflict	.386
Work-Life Enrichment	.410
Burnout	.331
Job Satisfaction	.315
Positive Affect	.416
Negative Affect	.410
Stress	.481

These values were estimated with an unconditional model using within-person variables.

Model 1

This model seeks to find an answer to H1 by regressing phone use on technology acceptance. Hypothesis 1, which states that greater acceptance of technology should predict greater phone use levels was supported, with results of both initial phone use (b = .456 t = 3.379) and daily phone use (b = .189 t = 2.196). This shows a significant, albeit small, relationship between accepting the use of phones and using them more often.

Table 3. Effects of Technology Acceptance on Phone Use, and of Phone use and Technology Acceptance on Daily Phone Use

Model 1	Initial Phone Use	*T*-Value	Daily Phone Use	*T*-Value
Main effects				
Intercept	0	-	0	-
Technology acceptance	.456	3.379***	.189	2.196**
Initial Phone Use	-	-	0.347	3.647***

These values were estimated with multi-level modelling that regressed Initial Phone use on Technology acceptance and regressed Daily Phone Use on Technology acceptance and initial Phone Use at level 2. Here, daily phone use was aggregated to create a variable which could be compared at level 2, while initial phone use and technology acceptance were grand mean centred *$p < .1$; ** $p < .05$; *** $p < .01$ (two tailed).

Model 2

Model 2 seeks to address H2-5 by regressing work-life conflict and enrichment onto phone use, perceived work-life balance, work-life permeability, and work-life flexibility. This model can be seen in Table 4. The relationship between phone use and either work-life conflict or work-life enrichment was non-significant, thus failing to support Hypothesis 2 and 4. Hypothesis 3, which states that greater permeability and flexibility and lower work-life balance will predict greater conflict, was partially supported by this model. Here, less work-life perception (b = -.309 t = -2.923), and greater flexibility (b = .142 t = 1.743) predict work-life conflict, in line with the hypothesis. However, permeability has the opposite of the hypothesised relationship, where greater permeability predicts decreased work-life conflict (b = -.248 t = -3.225). Further, Hypothesis 5, which states that greater permeability and flexibility and lower work-life balance will predict greater enrichment, was not supported. Here, it is shown that greater flexibility predicts less enrichment (b = -.184 t = -1.971), which is the opposite of the hypothesised relationship. Furthermore, Permeability and work-life perception had no significant relationship with enrichment.

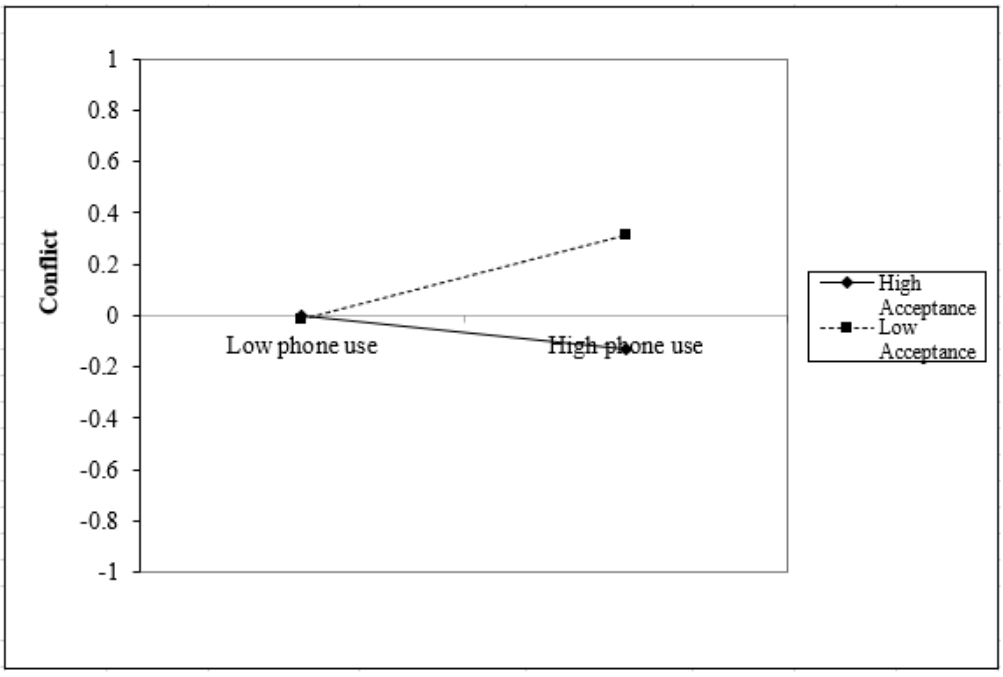
Although there was no significant relationship between phone use and conflict or enrichment, it may be possible that this relationship may exist in subgroups and become evident with another variable. As such, research question 1 involves assessing whether Technology acceptance, work-life perception, permeability, or flexibility may moderate the relationship between phone use and work-life conflict. These results can also be seen in Table 3. Here, it is shown that technology acceptance has a significant moderating effect on this relationship (b = -.950 t = 2.458). This relationship has been graphed in figure 1. This relationship shows that greater technology acceptance at high phone use levels is protective against work-life conflict, while those with low technology acceptance experience greater conflict as a result of greater than their average phone use.

Table 4. Effects of Phone use, perceived work-life balance, permeability, and flexibility on conflict and enrichment, and the mediating role of Technology acceptance, work-life perception, permeability, and flexibility.

Model 2	Work-Life Conflict	*T*-Score	Work-Life Enrichment	*T*-Score
Moderated model				
Intercept	0	-	0	-
Technology acceptance	-.029	-.206	.327	2.03**
Phone use	.198	.648	.448	1.285
Work-life perception	-.309	-2.923***	.143	-1.185
Permeability	-.248	-3.225*	.032	.365
Flexibility	.142	1.743*	-.184	-1.971**
Technology acceptance x Phone use	-.950	-2.458**	.468	.992
Work-life perception x Phone use	.137	.739	-.225	-.709
Permeability x Phone use	-.465	-1.647*	.215	.660
Flexibility x Phone use	.345	1.631*	.039	.136

These values were estimated with MLM that regressed Conflict or Enrichment on Phone use, at level 1, and at level 2 regressed conflict or enrichment on perceived work-life balance, permeability, and flexibility. Then, this predicted the level-1 Phone use/conflict and Phone use/enrichment intercept and beta with individuals' scores on acceptance, permeability, flexibility, and perception. Here, all variables were standardised with the group mean (Level 1) and grand mean (Level 2) *$p < .1$; ** $p < .05$; *** $p < .01$ (two tailed).

Figure 1. Moderating Effect of Technology Acceptance on the relationship between phone use and work-life conflict.



Research question 2 seeks to identify whether technology acceptance, work-life perception, permeability, or flexibility may moderate the relationship between phone use and conflict. However, results suggest that neither of these are significant moderators of the relationship between phone use and conflict. As well as technology acceptance, permeability also moderates the relationship between phone use and conflict (b = -.465 t = 1.647). This relationship has been graphed in figure 2. This moderation shows that the level of permeability that individual's display changes the impact that phone use has on conflict. Lower permeability has a lower impact, and greater permeability has a greater impact. Flexibility also shows a significant moderating effect on the relationship between phone use and conflict relationship (b = .345 t = 1.631), although opposite to the other moderators. This moderation relationship has been graphed in figure 3. This shows a similar relationship to permeability, whereby greater flexibility accentuates the impact of phone use. However, while high permeability is related to less conflict, high flexibility is associated with greater conflict. Finally, work-life perception was not a significant moderator of conflict.

Figure 2. Moderating Effect of Permeability on the relationship between phone use and conflict

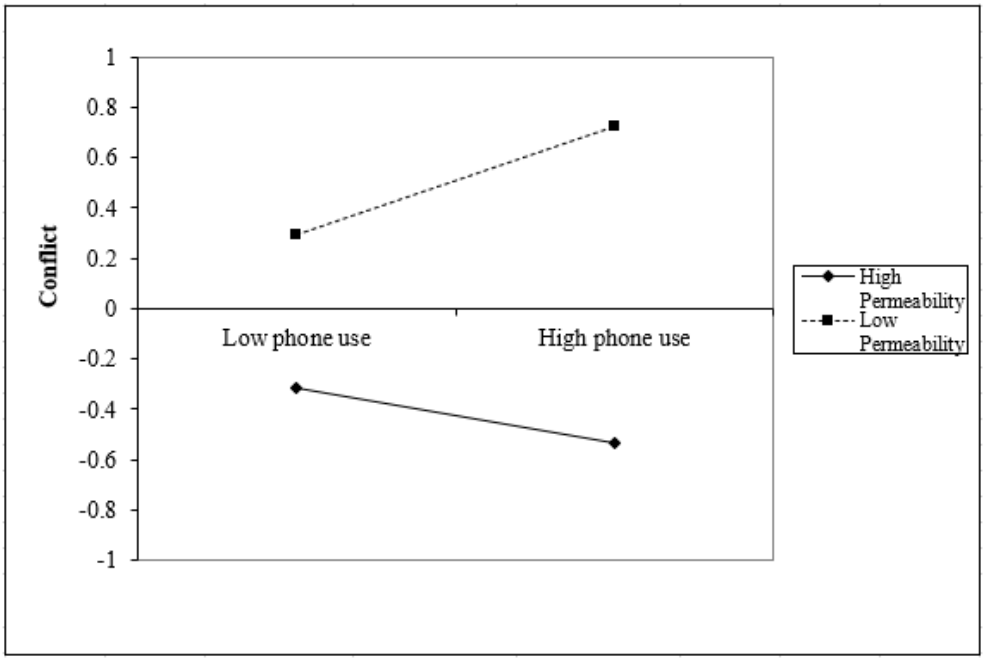
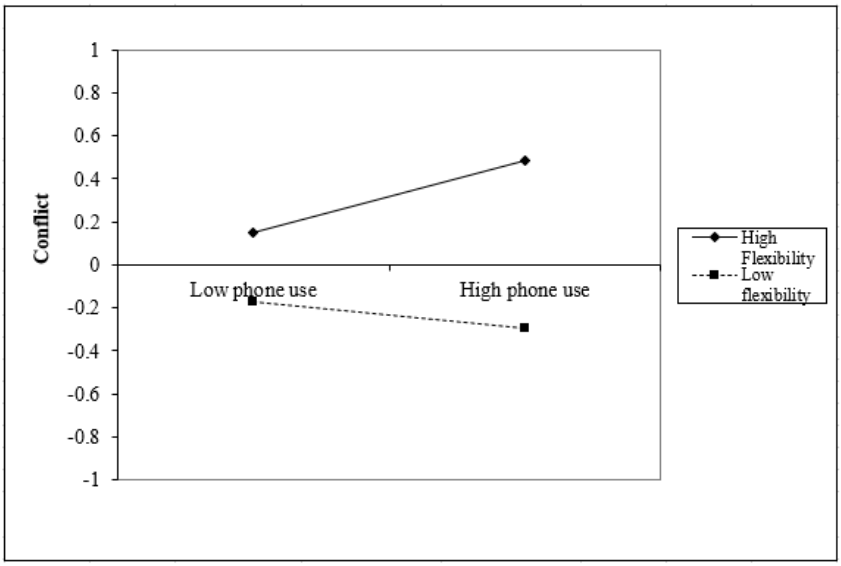


Figure 3. Moderating Effect of Flexibility on the relationship between phone use and conflict



Model 3

Model 3 seeks to address H6-13, which involve the daily outcome variables of positive affect, negative affect, job satisfaction, stress, and burnout regressed onto phone use, conflict, and enrichment. The results of this model are summarised in Table 5 and Table 6.

Hypothesis 6 states that greater than an individual's average conflict, and enrichment lower than average, should be associated with greater than their average burnout. Here, we can see partial support for this hypothesis, as greater than average conflict predicts greater than average burnout (b = .411 t = 4.099). However, enrichment has no significant relationship with burnout here. Hypothesis 7 states that greater than average phone use should be associated with greater than average burnout. Similar to enrichment, there was no significant relationship here. Thus Hypothesis 7 is not supported.

Table 5. Effects of Phone use, Conflict, and Enrichment on Stress, Burnout, and Job satisfaction

Model 3	Job satisfaction	*T*-Score	Stress	*T*-Score	Burnout	*T*-Score
Main effects						
Intercept	0	-	0	-	0	-
Phone use	-.153	-.720	.218	1.545	-.343	-1.189
Conflict	-.234	-3.170***	.081	1.889*	.411	4.099***
Enrichment	.292	4.117***	-.017	-.369	-.045	-.465

These values were estimated with MLM that regressed daily job satisfaction, stress, and burnout on phone use, conflict, and enrichment. Here, all variables were standardised with the group mean *$p < .1$; ** $p < .05$; *** $p < .01$ (two tailed).

Hypothesis 8 states that greater than an individual's average conflict, and enrichment lower than average, should be associated with greater than their average negative affect and decreased positive affect. Here, enrichment shows a significant positive relationship with positive affect (b = .288 t = 3.887), whereby lower enrichment would be predictive of lower positive affect. Furthermore, conflict showed a significant positive relationship with negative affect (b = .073 t = 1.933), whereby greater than the persons average conflict is predictive of greater than their average negative affect. No other significant relationships were found. Thus hypothesis 8 is partially supported. Hypothesis 9 stated that greater than average phone use in a day should be associated with an increase in their average negative affect and a decrease in their average positive affect. There were no significant relationships here. Therefore hypothesis 9 is not supported by our data.

Table 6. Effects of Phone use, Conflict, and Enrichment on Positive and Negative Affect

Model 3	Positive affect	*T*-Score	Negative affect	*T*-Score
Main effects				
Intercept	0	-	0	-
Phone use	.197	.884	-.046	-.422
Conflict	.032	.410	.073	1.933*
Enrichment	.288	3.887***	-.056	-1.555

These values were estimated with MLM that regressed daily positive and negative affect on phone use, conflict, and enrichment. Here, all variables were standardised with the group mean *$p < .1$; ** $p < .05$; *** $p < .01$ (two tailed).

Hypothesis 10 states that greater than a person's average conflict, and lower than a person's average enrichment should be associated with lower than the persons average job satisfaction. Here, the results of model 3 support this hypothesis. Conflict negatively predicts job satisfaction (b = -.234 t = -3.170), while higher than the average levels of enrichment predict greater than average job satisfaction (b = .292 t = 4.117). Alternatively, my results do not support Hypothesis 11. Hypothesis 11 states that greater than a person's average phone use should be associated with greater than the persons average job satisfaction. However, the relationship between these was non-significant.

Hypothesis 12 states that greater than a person's average conflict, and lower than a person's average enrichment should be associated with greater than their average stress. This hypothesis is partially supported, as greater than the persons average conflict is associated with higher than the person's average stress (b = .081 t = 1.889). However, there is no significant relationship between enrichment and stress. Finally, hypothesis 13 states that greater than a person's average phone use should be associated with greater than their average stress. There is no significant association between phone use and stress. Therefore hypothesis 13 is not supported.

Discussion

The purpose of this dissertation was to explore how daily phone use may affect one's work-life balance and how this work-life balance related to tangible outcome measures. While I aimed to test the relationship between phone use and work-life balance, my main goal was to add to the literature by expressing this relationship and its outcomes in the context of daily changes within working people. Therefore, the current study utilised a daily diary format of experience sampling to investigate my hypothesis. The data obtained through this study support a positive relationship between Technology acceptance and phone use, a relationship between phone use and work-life conflict moderated by technology acceptance, permeability, and flexibility, and a relationship between work-life balance and the outcome measures of burnout, affect job satisfaction, and stress.

More specifically, we can see a significant positive relationship between the acceptance of smartphones and the actual use of them (Hypothesis 1 supported). This relationship is expected as the technology acceptance model is designed to assess how comfortable and likely a person is to use the technology in question (Fred D. Davis, 1989b; Venkatesh et al., 2008). Adding to this, it was found that technology acceptance also had a moderating effect on the relationship between phone use and work-life conflict, one of the

work-life balance measures. This moderating effect shows that those with greater technology acceptance levels experience less conflict associated with greater phone use. This relationship implies that those familiar with and intend to use their phone may be better at organising their work-life balance to reduce conflict through the use of the benefits that smartphones allow us. Similar effects are seen in the literature, where how a person uses their phone can determine how it affects balance (Golden & Geisler, 2007; Wajcman et al., 2008). This result raises the question of whether the blurred boundaries resulting from phone use are necessarily an indicator of bad work-life balance (Cousins & Robey, 2005; Hislop & Axtell, 2011).

The relationship between phone use and conflict was also moderated by the flexibility and permeability of the work-life border. Permeability showed a similar effect to technology acceptance, whereby greater permeability was associated with lower conflict, with a greater difference at higher phone use. Flexibility had the opposite effect of permeability, where greater flexibility and phone use was predictive with significantly worse conflict. This is compounded by the findings pertaining to hypothesis 3, whereby greater permeability and perceived work-life balance directly predict less average conflict, and greater flexibility predicts greater average conflict (partially supports hypothesis 3). These findings imply that those who have a more permeable and less flexible border and are more comfortable with smartphones may have greater experienced work-life balance. This is opposed to typical work-life research which would imply that greater permeability should result in greater conflict (Duxbury & Higgins, 2001; Eagle et al., 1997; Frone, 2003).

The data from this research also showed some significant outcomes of the above relationships. When work-life conflict is greater than the participants' average, participants tend to experience greater than their average level of burnout within a day (partially supports hypothesis 6). Similarly, greater than average conflict is predictive of greater than average negative affect. In contrast, greater than average enrichment, considered the opposite of

conflict, is associated with greater positive affect (partial support for hypothesis 8). This greater than average conflict predicts decreased job satisfaction to the average, while enrichment predicts greater than average job satisfaction (full support for hypothesis 10). Finally, greater than average conflict also predicts greater than average stress within a day (partial support for hypothesis 12). This shows that greater conflict experiences within a day are associated with worse outcomes in each of the four outcome variables included in this study. This is not surprising, as conflict is defined as incompatible pressures between the work and non-work domains (Brauchli et al., 2011). Greater conflict can even lead to long term psychological (Perry & Hammer, 2017), physical (Bakker et al., 2004), and behavioural (Allen & Armstrong, 2006) issues.

Similarly, greater than average enrichment was associated with greater positive affect and job satisfaction within a day. This is also not surprising, as enrichment is considered a positive alternative to conflict, with positive outcomes in the workplace (Rothbard, 2001; Ruderman et al., 2002). This may imply that even within the context of a day, individuals must attempt to reduce their work-life conflict as much as possible while fostering enrichment.

On top of the above data that supported some of my hypotheses, there were also many of my hypotheses for which I did not find any support. I did not find any direct relationship between phone use and work-life conflict (hypothesis 2), or enrichment (hypothesis 4). I believe that this is due to the effect of phone use on work-life balance working through and alongside effects of border permeability and flexibility, which alter the impact of this phone use (Leung, 2011). This is partially evidenced by the significant moderation patterns which I have previously discussed. Furthermore, phone use was not significantly predictive of burnout (hypothesis 7), positive or negative affect (hypothesis 9), job satisfaction (hypothesis 11), or of stress (hypothesis 13). It is possible that these results are also caused by the effect

of phone use only being felt through its removed effects on the work-life balance. Alternatively, this may imply that the measure used for assessing phone use is not appropriate for identifying the types of phone use that may impact these outcome variables.

Finally, we can see some interesting results which may indicate further sources of research opportunities. Particularly, greater work-life flexibility is shown to predict less enrichment among participants. This is the opposite of the direction in which I had initially hypothesised (hypothesis 5 not supported). This may be related to the idea that enrichment is not just the opposite of conflict but is its own unique display of positive spillover (Greenhaus & Powell, 2006). This idea is further supported by the fact that enrichment showed no moderated relationships with phone use, unlike conflict. This can also be explained by the idea that in order for enrichment to occur, cognitive and social resources such as information or increased self-esteem must be both transported across the work-life barrier and successfully applied in a way that results in increased performance (Greenhaus & Powell, 2006). This ability to apply resources was not assessed in the current study and could be a missing variable needed to explain this variable's variation. It is plausible then that increased flexibility may prevent us from properly applying these resources to the correct role, as this flexibility reduces our ability to distinguish between roles.

Strengths

I believe that the current study has several strengths and contributions to be made towards the work-life and applied psychology literature. Firstly, I believe that this research contributes to our understanding of how phone use, global work-life balance, and daily fluctuations of work-life balance can explain some of the variance in burnout, affect, job satisfaction, and stress in the workplace. Daily relationships between these variables may be concealed or even actively ignored in traditional longitudinal research approaches (Maertz &

Boyar, 2011). Many of the work-life and related variables tend to disappear or change when we compare cross sectional and longitudinal data (Bono et al., 2012; Frone et al., 1997; Shockley & Allen, 2013; Wang et al., 2010), and thus daily data can provide us with greater insight into the evolving relationship between variables, and their daily fluctuation (Almeida et al., 2016). For example, it may be necessary for work-life conflict to be assessed daily along with its outcomes, as such conflict may be altered or compensated for overtime. This is compounded by the fact that many work-life research pieces fail to utilise intensive longitudinal designs, assess outcome measures, or employ moderation (Casper et al., 2007), while this study employs all of these.

There are several specific strengths to our utilisation of a daily diary methodology. Firstly, this type of study reduces retrospective biases which are typical in most cross-sectional designs. Research has shown that intra-class correlations tend to increase significantly as the question framing becomes more and more distant (Bolger et al., 2003). This means that as people aggregate their own experience over longer intervals, reports increasingly display between-individual variance rather than within-individual variance. Daily diary and ESM designs seek to reverse this and better understand within-person variances. Here, although immediate experience provides the least bias (Kahneman et al., 2004), overall daily measures such as I have used provide greater insight into the perception and impact of these variables (Beal, 2015). These repeated measures reduce self-enhancement bias, which plagues cross-sectional research (Beal, 2015). As the source of this bias is that individuals bias their results to be more desirable, it is expected that every instance is likely evenly biased with repeated measures. As a result, using within-person centring such as I have should eliminate the effects of self-enhancement on the results (Enders & Tofighi, 2007).

Much research on the modern workplace has not looked at the impacts that the new generations of smartphones may have. Further than this, those that have are typically limited in their scope and analysis of resulting outcomes. Thus, I believe it is a strength that the current study assesses modern uses of smartphones and their possible effects on the workforce. Furthermore, the use of technology acceptance is a strength. It allows for a possible explanation behind why some may have different smartphone use levels, which many studies tend to ignore. This is reinforced as researchers have called for technology acceptance to be more often used for moderating other relationships (Venkatesh, 2000; Venkatesh & Brown, 2001), which I have done here.

Finally, very little research provides practical ways to deal with increased work-life conflict and its results (E. E. Kossek et al., 2011). Therefore, a strength of this study is that the results allow us a research base with which to test possible interventions in the workplace to address work-life balance. Here, a focus on increased technology acceptance for smartphones and increased work-life permeability, but not flexibility, appear to be reasonable targets for interventions and workshops. Thus, future research could investigate the applicability of workplace practices addressing these.

Implications.

Previous work-life balance research has implied that work-life constructs are stable over time (Maertz & Boyar, 2011). However, this research's daily diary type design has provided the ability to better understand the dynamic effects within this field of study. To reiterate, the results of this study show that technology acceptance predicts greater daily phone use, which in turn, when combined with work-life flexibility and permeability, predict our experienced daily work-life conflict. Here, daily changes in both work-life conflict and enrichment predict daily change in several outcome variables. Thus, this dissertation serves to

help fill the literature gap surrounding the daily interactions between work-life balance, its possible causes, and outcomes. The inclusion of a moderating analysis for conflict and enrichment can also help identify linking mechanisms within work-life research (Brummelhuis & Bakker, 2012).

These results show that the importance of avoiding work-life conflict issues goes beyond purely individual wellbeing. Its significant positive relationship with burnout and job satisfaction is of direct importance for organisations and their effectiveness. Work-life research has provided few ways in which to directly affect work-life conflict and its adverse outcomes (E. E. Kossek et al., 2011). The results in this dissertation point to some ways in which workers can attempt to address this lack in the literature. The primary method of creating beneficial daily change in work-life conflict appears to be from addressing the work-life boundary. Here, workers should strive to create well defined spatial and temporal borders between life and work, which stay consistent (low flexibility) while at the same time allowing for communication and thoughts to more or less freely cross this barrier (high permeability). Next, workers should actively work to familiarise themselves with smartphones and their uses and accept their use in the workplace and family settings. Businesses may address these selections by providing smartphone-based training to those who have worse technology acceptance while promoting smartphones for work and non-work purposes in the workplace. Furthermore, workshops that outline the benefits of a consistent unchanging barrier between work and life may significantly affect work-life conflict. As work life balance is considered among workers and business as one of the most important factors to navigate (Casper et al., 2018) such programs which target work-life balance will only become more important in the future, to prevent the stress and strain of having multiple, converging work-life roles (González-Romá & Gamero, 2012).

Limitations and future research.

Firstly, the questionnaires used in this study were relatively long, with many items to complete daily, and especially initially. It is suggested that this length imposes a greater burden on participants, potentially affecting compliance rates. Simultaneously, longer questionnaires may improve data quality by comparatively decreasing mental load for each question (Palmier-Claus et al., 2011). Due to the higher than average response rate in this study, the compliance burden's effect was likely minimal. Furthermore, it is emphasised by Hektner et al. (2007) that appropriate attention is to be made to reminding participants when a daily questionnaire is to be completed. Here, it is advised by some researchers that participants should be called shortly before the questionnaire is sent or having payment increase conditionally based on the level of participation (Palmier-Claus et al., 2011). I did not utilise either of these methods. However, the daily measures were sent shortly before the end of the workday to ensure that workers would be less likely to miss it.

As I utilised nonexperimental data, I cannot determine causal relationships between my studied variables (Ilies et al., 2018). Specifically, while I hypothesised the relationship between work-life conflict and burnout and job satisfaction, it is entirely possible that lower job satisfaction and greater burnout somehow shape the work-life boundary and experienced conflict. This study primarily aimed to understand the inter-relatedness of the investigated variables; therefore, causality was not of importance here. However, to compliment the current study, future research may investigate ways to experimentally alter work-life conflict and determine its causal relationship with burnout, job satisfaction, affect, and stress.

Due to the daily diary design of this study, my data was entirely self-reported. It is typically accepted that self-reported data is the most useful for daily research, as individuals

tend to be the most informed source for their own behaviour (Berry et al., 2012). The use of self-report data is appropriate as all of the variables I studied here capture an individual's assessment of their experiences. However, future research may want to explore utilising reports from others to have greater depth in assessing these variables. Previous studies have shown that work-life conflict self-partner ratings are related but not overlapping constructs (Grandey et al., 2005). Thus, these individuals may provide greater insight into the relationships presented here.

As previously mentioned, although this daily diary design can provide us with critical daily interpretations of the variables in question, this does not have the exact accuracy of a rapid experience sampling method (Kahneman et al., 2004). To build upon my findings in this study, it could be interesting to investigate the occurrence of conflict and enrichment throughout the day, whereby participants would directly report instances of conflict or enrichment as they occurred.

There was some amount of issue with reliability amongst the measures utilised in this study. However, it is not uncommon for daily diary studies to report less than optimal reliability (Binnewies et al., 2010; Song et al., 2008). Job satisfaction ($\alpha = .660$) and stress ($\alpha = .696$) each displayed less than preferable reliability when considering the .7 cut-off. However, as these item sets were partially altered to reflect a focus on just the current day and are thus adjusted scales, we can look at them from the temporary recommended cut-off of .6 (Nunnally, 1994). However, this implies that further scale development should be undertaken to better adjust stress and job satisfaction to this day specific context.

I did not include demographic variables in my study, as technology acceptance seemed like a more general differentiating variable to display the differences in the studied relationships between individuals. However, future research which builds upon these findings

for specific demographics may be of interest. Previous research has identified that the relationship between work-life conflict and burnout is stronger for those who are single, did not have children, and are younger than 43 (Reichl, Leiter, et al., 2014). It is believed that these individuals receive less social support than others. This is supported by findings that non-work social support structures moderate the relationship between burnout and some of its causes (Huynh et al., 2013). Furthermore, younger individuals may face more job demands based on their lack of experience, thus displaying lesser work-life balance than their older counterparts (Reichl, Wach, et al., 2014). A modification of my methodology could be used to investigate how these relationships differ amongst age and family type/status.

Cultural demographics may also be important for the investigated relationships, especially in the context of New Zealand. Currently, there is much disagreement on the likely interactions between work-life balance differences and collectivist culture. Some evidence suggests that collectivistic cultures (Māori and Pasifika: Brougham & Haar, 2013; Lomax & Lemon, 2007) tend to have closer in-group relations, which can make it more difficult to detach from in-group roles, amplifying the effects of impacts on work-life balance (Hofstede & Bond, 1984; Reichl, Leiter, et al., 2014). Alternatively, some research indicates that this collectivism is protective against work-life conflict's adverse effects (Lu et al., 2006; Spector et al., 2007). Thus, it would be interesting to investigate the relationships displayed by the current study in the context of comparing individualistic and collectivistic cultures.

Now that there is evidence that there is a relationship expanding from technology acceptance to phone use to conflict to outcome variables, future research may expand this relationship to include a more diverse set of outcomes. This may involve physical health measures, such as blood pressure (Grzywacz & Tucker, 2008) or heart variability (Rajendra Acharya et al., 2006), which have exploded in importance over the past few decades. Thus, data from multiple sources can be combined to provide a more holistic view of worker’s

outcomes (Eatough et al., 2016). For example, wristwatch style monitors and smartphones may be used to measure blood pressure, heart rate, physical activity, and sleep following modern innovations (Crain et al., 2014; Shockley & Allen, 2013). .

Conclusion

Work-life balance is becoming increasingly important, as one of the most discussed topics by individuals within organisations. As technology, especially smartphones, are becoming more ubiquitous throughout the workforce, there is an increasing tendency for the ever-important borders that define our lives to blur and change. Such borders affect our experienced spillover, and thus several outcomes related to this. In this dissertation, I proposed and tested a multi-level model which investigated the effects of technology on phone use, phone use on daily work-life balance, and daily work-life balance on burnout, job satisfaction, affect, and stress. This involved a two-level daily diary methodology where daily variables were nested within participants. To my knowledge, although other studies take a daily diary approach to work-life balance, none involve phone use as a predictor while also involving several outcome variables in the process. As such, this may give one of the most comprehensive ideas of the daily work-life balance relationship. My findings suggest that greater technology acceptance is predictive of greater phone use. Greater than participant average phone use is associated with work-life conflict when moderated by technology acceptance, permeability, or flexibility. While greater technology acceptance, permeability, and phone use result in greater than the person's average conflict. This greater than average conflict is then predictive of greater than their average burnout, negative affect, stress, lower job satisfaction, and positive affect. These findings advance our understanding of how individuals experience variation in work-life balance daily. This dissertation highlights the importance of daily changes in work-life balance and its association with smartphone use.

References

Allen, T. D., & Armstrong, J. (2006). Further Examination of the Link Between Work-Family Conflict and Physical Health: The Role of Health-Related Behaviors. *American Behavioral Scientist*, *49*(9), 1204–1221. https://doi.org/10.1177/0002764206286386

Allen, T. D., Cho, E., & Meier, L. L. (2014). Work–Family Boundary Dynamics. *Annual Review of Organizational Psychology and Organizational Behavior*, *1*(1), 99–121. https://doi.org/10.1146/annurev-orgpsych-031413-091330

Allen, T. D., Herst, D. E. L., Bruck, C. S., & Sutton, M. (2000). Consequences associated with work-to-family conflict: A review and agenda for future research. *Journal of Occupational Health Psychology*, *5*(2), 278–308. https://doi.org/10.1037/1076-8998.5.2.278

Allison, P. D. (2001). *Missing Data*. SAGE Publications.

Almeida, D. M., Davis, K. D., Lee, S., Lawson, K. M., Walter, K. N., & Moen, P. (2016). Supervisor Support Buffers Daily Psychological and Physiological Reactivity to Work-to-Family Conflict. *Journal of Marriage and Family*, *78*(1), 165–179. https://doi.org/10.1111/jomf.12252

Amstad, F. T., Meier, L. L., Fasel, U., Elfering, A., & Semmer, N. K. (2011). A meta-analysis of work–family conflict and various outcomes with a special emphasis on cross-domain versus matching-domain relations. *Journal of Occupational Health Psychology*, *16*(2), 151–169. https://doi.org/10.1037/a0022170

Armstrong, G. S., Atkin-Plunk, C. A., & Wells, J. (2015). The Relationship Between Work–Family Conflict, Correctional Officer Job Stress, and Job Satisfaction. *Criminal Justice and Behavior*, *42*(10), 1066–1082. https://doi.org/10.1177/0093854815582221

Ashforth, B. E., Kreiner, G. E., & Fugate, M. (2000). All in a day's work: Boundaries and micro role transitions. *Academy of Management Review*, *25*(3), 472–491.

Bailon, C., Damas, M., Pomares, H., Sanabria, D., Perakakis, P., Goicoechea, C., & Banos, O. (2019). Smartphone-based platform for affect monitoring through flexibly managed experience sampling methods. *Sensors (Switzerland)*, *19*(15). https://doi.org/10.3390/s19153430

Bakker, A. B., & Daniels, K. (2012). *A Day in the Life of a Happy Worker*. Psychology Press.

Bakker, A. B., Demerouti, E., & Verbeke, W. (2004). Using the job demands-resources model to predict burnout and performance. *Human Resource Management*, *43*(1), 83–104. https://doi.org/10.1002/hrm.20004

Barber, L. K., Conlin, A. L., & Santuzzi, A. M. (2019). Workplace telepressure and work–life balance outcomes: The role of work recovery experiences. *Stress and Health*, *35*(3), 350–362.

Barber, L. K., & Santuzzi, A. M. (2017). Telepressure and college student employment: The costs of staying connected across social contexts. *Stress and Health*, *33*(1), 14–23.

Barley, S. R., Meyerson, D. E., & Grodal, S. (2011). E-mail as a source and symbol of stress. *Organization Science*, *22*(4), 887–906.

Barnett, R. C., & Hyde, J. S. (2001). Women, men, work, and family: An expansionist theory. *American Psychologist*, *56*(10), 781–796. https://doi.org/10.1037/0003-066X.56.10.781

Beach, B. (1989). *Integrating work and family life: The home-working family*. SUNY Press.

Beal, D. J. (2015). ESM 2.0: State of the Art and Future Potential of Experience Sampling Methods in Organizational Research. *Annual Review of Organizational Psychology and Organizational Behavior*, *2*(1), 383–407. https://doi.org/10.1146/annurev-orgpsych-032414-111335

Beal, D. J., & Weiss, H. M. (2003). Methods of Ecological Momentary Assessment in Organizational Research. *Organizational Research Methods*, *6*(4), 440–464. https://doi.org/10.1177/1094428103257361

Beal, D. J., Weiss, H. M., Barros, E., & MacDermid, S. M. (2005). An Episodic Process Model of Affective Influences on Performance. *Journal of Applied Psychology*, *90*(6), 1054–1068. https://doi.org/10.1037/0021-9010.90.6.1054

Berry, C. M., Carpenter, N. C., & Barratt, C. L. (2012). Do other-reports of counterproductive work behavior provide an incremental contribution over self-reports? A meta-analytic comparison. *Journal of Applied Psychology*, *97*(3), 613–636. https://doi.org/10.1037/a0026739

Bianchi, S. M., & Milkie, M. A. (2010). Work and Family Research in the First Decade of the 21st Century. *Journal of Marriage and Family*, *72*(3), 705–725. https://doi.org/10.1111/j.1741-3737.2010.00726.x

Binnewies, C., Sonnentag, S., & Mojza, E. J. (2010). Recovery during the weekend and fluctuations in weekly job performance: A week-level study examining intra-individual relationships. *Journal of Occupational and Organizational Psychology*, *83*(2), 419–441. https://doi.org/10.1348/096317909X418049

Bolger, N., Davis, A., & Rafaeli, E. (2003). Diary Methods: Capturing Life as it is Lived. *Annual Review of Psychology*, *54*(1), 579–616. https://doi.org/10.1146/annurev.psych.54.101601.145030

Bono, J. E., Glomb, T. M., Shen, W., Kim, E., & Koch, A. J. (2012). Building Positive Resources: Effects of Positive Events and Positive Reflection on Work Stress and Health. *Academy of Management Journal*, *56*(6), 1601–1627. https://doi.org/10.5465/amj.2011.0272

Bowling, N. A. (2007). Is the job satisfaction–job performance relationship spurious? A meta-analytic examination. *Journal of Vocational Behavior*, *71*(2), 167–185. https://doi.org/10.1016/j.jvb.2007.04.007

Boyar, S. L., Valk, R., Maertz, C. P., & Sinha, R. (2012). Linking turnover reasons to family profiles for IT/BPO employees in India. *Journal of Indian Business Research*.

Brauchli, R., Bauer, G. F., & Hämmig, O. (2011). Relationship between time-based work-life conflict and burnout: A cross-sectional study among employees in four large Swiss enterprises. *Swiss Journal of Psychology/Schweizerische Zeitschrift Für Psychologie/Revue Suisse de Psychologie*, *70*(3), 165–173. http://dx.doi.org.helicon.vuw.ac.nz/10.1024/1421-0185/a000052

Brayfield, A. H., & Rothe, H. F. (1951). An index of job satisfaction. *Journal of Applied Psychology*, *35*(5), 307–311. https://doi.org/10.1037/h0055617

Briggs, C., & Makice, K. (2012). Digital fluency, building success in the digital age. *SociaLens*.

Brough, P., Timms, C., O'Driscoll, M. P., Kalliath, T., Siu, O.-L., Sit, C., & Lo, D. (2014). Work–life balance: A longitudinal evaluation of a new measure across Australia and New Zealand workers. *The International Journal of Human Resource Management*, *25*(19), 2724–2744.

Brougham, D., & Haar, J. M. (2013). Collectivism, Cultural Identity and Employee Mental Health: A Study of New Zealand Maori. *Social Indicators Research*, *114*(3), 1143–1160. http://dx.doi.org.helicon.vuw.ac.nz/10.1007/s11205-012-0194-6

Bulger, C. A., Matthews, R. A., & Hoffman, M. E. (2007). Work and personal life boundary management: Boundary strength, work/personal life balance, and the segmentation-integration continuum. *Journal of Occupational Health Psychology*, *12*(4), 365.

Butler, A. B., Grzywacz, J. G., Bass, B. L., & Linney, K. D. (2005). Extending the demands-control model: A daily diary study of job characteristics, work-family conflict and work-family facilitation. *Journal of Occupational and Organizational Psychology*, *78*(2), 155–169. https://doi.org/10.1348/096317905X40097

Byron, K. (2005). A meta-analytic review of work–family conflict and its antecedents. *Journal of Vocational Behavior*, *67*(2), 169–198.

Carlson, D. S., Kacmar, K. M., Wayne, J. H., & Grzywacz, J. G. (2006). Measuring the positive side of the work–family interface: Development and validation of a work–family enrichment scale. *Journal of Vocational Behavior*, *68*(1), 131–164. https://doi.org/10.1016/j.jvb.2005.02.002

Carlson, D. S., Kacmar, K. M., & Williams, L. J. (2000). Construction and initial validation of a multidimensional measure of work–family conflict. *Journal of Vocational Behavior*, *56*(2), 249–276.

Casper, W. J., Eby, L. T., Bordeaux, C., Lockwood, A., & Lambert, D. (2007). A review of research methods in IO/OB work-family research. *The Journal of Applied Psychology*, *92*(1), 28–43. https://doi.org/10.1037/0021-9010.92.1.28

Casper, W. J., Vaziri, H., Wayne, J. H., DeHauw, S., & Greenhaus, J. (2018). The jingle-jangle of work-nonwork balance: A comprehensive and meta-analytic review of its meaning and

measurement. *The Journal of Applied Psychology*, *103*(2), 182–214. https://doi.org/10.1037/apl0000259

Castells, M. (2013). *Communication Power*. OUP Oxford.

Chen, G., Ployhart, R. E., Thomas, H. C., Anderson, N., & Bliese, P. D. (2011). The Power of Momentum: A New Model of Dynamic Relationships between Job Satisfaction Change and Turnover Intentions. *Academy of Management Journal*, *54*(1), 159–181. https://doi.org/10.5465/amj.2011.59215089

Cho, E., & Allen, T. D. (2013). Work-to-family conflict and the family dinner: What makes a difference? *Community, Work & Family*, *16*(1), 88–99. https://doi.org/10.1080/13668803.2012.722010

Clark, S. C. (2002). Borders between work and home, and work/family conflict. *Annual Meeting of the Academy of Management, Denver, CO*, 9–14.

Clark, Sue Campbell. (2000). Work/family border theory: A new theory of work/family balance. *Human Relations*, *53*(6), 747–770.

Clark, Sue Campbell. (2002). Communicating across the work/home border. *Community, Work & Family*, *5*(1), 23–48. https://doi.org/10.1080/13668800020006802

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 385–396.

Colbert, A., Yee, N., & George, G. (2016). The Digital Workforce and the Workplace of the Future. *Academy of Management Journal*, *59*(3), 731–739. https://doi.org/10.5465/amj.2016.4003

Cooper, C., & Faragher, B. (2013). The impact of the workplace on health. *BMJ*, *347*, f4944. https://doi.org/10.1136/bmj.f4944

Cousins & Robey. (2005). Human agency in a wireless world: Patterns of technology use in nomadic computing environments. *Information and Organization*.

Covey, S. R. (1989). *The 7 Habits of Highly Effective People: An Extraordinary Step-by-step Guide to Achieving the Human Characteristics that Really Create Success*. Simon and Schuster.

Crain, T. L., Hammer, L. B., Bodner, T., Kossek, E. E., Moen, P., Lilienthal, R., & Buxton, O. M. (2014). Work–family conflict, family-supportive supervisor behaviors (FSSB), and sleep outcomes. *Journal of Occupational Health Psychology*, *19*(2), 155–167. https://doi.org/10.1037/a0036010

Crouter, A. C. (1984). Spillover from Family to Work: The Neglected Side of the Work-Family Interface. *Human Relations*, *37*(6), 425–441. https://doi.org/10.1177/001872678403700601

Crouter, A. C., Bumpus, M. F., Head, M. R., & McHale, S. M. (2001). Implications of overwork and overload for the quality of men's family relationships. *Journal of Marriage and Family*, *63*(2), 404–416.

Dalal, R. S., Bhave, D. P., & Fiset, J. (2014). Within-Person Variability in Job Performance: A Theoretical Review and Research Agenda. *Journal of Management*, *40*(5), 1396–1436. https://doi.org/10.1177/0149206314532691

Davis, F. D. (1985a). A technology acceptance model for empirically testing new end-user information systems: Theory and results. *Management*, *Ph.D.*, 291. https://doi.org/oclc/56932490

Davis, F. D. (1985b). A technology acceptance model for empirically testing new end-user information systems: Theory and results. *Management*, *Ph.D.*, 291. https://doi.org/oclc/56932490

Davis, Fred D. (1989a). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly: Management Information Systems*, *13*(3), 319–339. https://doi.org/10.2307/249008

Davis, Fred D. (1989b). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly: Management Information Systems*, *13*(3), 319–339. https://doi.org/10.2307/249008

Davis, Fred D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and Intrinsic Motivation to Use Computers in the Workplace. *Journal of Applied Social Psychology*, *22*(14), 1111–1132. https://doi.org/10.1111/j.1559-1816.1992.tb00945.x

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, *86*(3), 499–512. https://doi.org/10.1037/0021-9010.86.3.499

Demerouti, E., Sanz-Vergel, A. I., Petrou, P., & van den Heuvel, M. (2016). How work–self conflict/facilitation influences exhaustion and task performance: A three-wave study on the role of personal resources. *Journal of Occupational Health Psychology*, *21*(4), 391–402. https://doi.org/10.1037/ocp0000022

Dén-Nagy, I. (2014). A double-edged sword?: A critical evaluation of the mobile phone in creating work-life balance. *New Technology, Work and Employment*, *29*(2), 193–211. https://doi.org/10.1111/ntwe.12031

Devaraj, U. S., Easley, R. F., & Michael Crant, J. (2008). How does personality matter? Relating the five-factor model to technology acceptance and use. *Information Systems Research*, *19*(1), 93–105. https://doi.org/10.1287/isre.1070.0153

Donaldson, S. I., & Ko, I. (2010). Positive organizational psychology, behavior, and scholarship: A review of the emerging literature and evidence base. *The Journal of Positive Psychology*, *5*(3), 177–191. https://doi.org/10.1080/17439761003790930

Duxbury, L. E., & Higgins, C. A. (2001). *Work-life Balance in the New Millennium: Where are We?: where Do We Need to Go?* (Vol. 4). Canadian Policy Research Networks Incorporated.

Duxbury, L., Higgins, C., Smart, R., & Stevenson, M. (2014). Mobile technology and boundary permeability. *British Journal of Management*, *25*(3), 570–588.

Eagle, B. W., Miles, E. W., & Icenogle, M. L. (1997). Interrole Conflicts and the Permeability of Work and Family Domains: Are There Gender Differences? *Journal of Vocational Behavior*, *50*(2), 168–184. https://doi.org/10.1006/jvbe.1996.1569

Eatough, E. M., Meier, L. L., Igic, I., Elfering, A., Spector, P. E., & Semmer, N. K. (2016). You want me to do what? Two daily diary studies of illegitimate tasks and employee well-being. *Journal of Organizational Behavior*, *37*(1), 108–127. https://doi.org/10.1002/job.2032

Edwards, J. R., & Rothbard, N. P. (2000). Mechanisms Linking Work and Family: Clarifying the Relationship Between Work and Family Constructs. *Academy of Management Review*, *25*(1), 178–199. https://doi.org/10.5465/amr.2000.2791609

Eikhof, D. R. (2007). Introduction: What work? What life? What balance? *Employee Relations*.

Enders, C. K., & Tofighi, D. (2007). Centering predictor variables in cross-sectional multilevel models: A new look at an old issue. *Psychological Methods*, *12*(2), 121–138. https://doi.org/10.1037/1082-989X.12.2.121

Evans, O., & Steptoe, A. (2002). The contribution of gender-role orientation, work factors and home stressors to psychological well-being and sickness absence in male-and female-dominated occupational groups. *Social Science & Medicine*, *54*(4), 481–492.

Fellows, K. J., Chiu, H.-Y., Hill, E. J., & Hawkins, A. J. (2016). Work-Family Conflict and Couple Relationship Quality: A Meta-analytic Study. *Journal of Family and Economic Issues*, *37*(4), 509–518.

Fenner, G. H., & Renn, R. W. (2010). Technology-assisted supplemental work and work-to-family conflict: The role of instrumentality beliefs, organizational expectations and time management. *Journals.Sagepub.Com*, *63*(1), 63–82. https://doi.org/10.1177/0018726709351064

Ferdous, R., Osmani, V., & Mayora, O. (2015). Smartphone app usage as a predictor of perceived stress levels at workplace. *2015 9th International Conference on Pervasive Computing Technologies for Healthcare (PervasiveHealth)*, 225–228. https://doi.org/10.4108/icst.pervasivehealth.2015.260192

Ferguson, M., Carlson, D., Boswell, W., Whitten, D., Butts, M. M., & Kacmar, K. M. (Micki). (2016). Tethered to work: A family systems approach linking mobile device use to turnover

intentions. *Journal of Applied Psychology*, *101*(4), 520–534. https://doi.org/10.1037/apl0000075

Ferguson, M., Carlson, D., Zivnuska, S., & Whitten, D. (2012). Support at work and home: The path to satisfaction through balance. *Journal of Vocational Behavior*, *80*(2), 299–307.

Fishbein, M., & Ajzen, I. (1975). An Introduction to Theory and Research. In *Belief, Attitude, Intention, and Behavior, An Introduction to Theory and Research*. https://doi.org/10.2307/2065853

Fleeson, W., & Gallagher, P. (2009). The Implications of Big Five Standing for the Distribution of Trait Manifestation in Behavior: Fifteen Experience-Sampling Studies and a Meta-Analysis. *Journal of Personality and Social Psychology*, *97*(6), 1097–1114. https://doi.org/10.1037/a0016786

Fredrickson, B. L., & Kahneman, D. (1993). Duration neglect in retrospective evaluations of affective episodes. *Journal of Personality and Social Psychology*, *65*(1), 45–55. https://doi.org/10.1037/0022-3514.65.1.45

Frone, M. R. (2003). *Work-family balance.*

Frone, M. R., Russell, M., & Cooper, M. L. (1997). Relation of work–family conflict to health outcomes: A four-year longitudinal study of employed parents. *Journal of Occupational and Organizational Psychology*, *70*(4), 325–335. https://doi.org/10.1111/j.2044-8325.1997.tb00652.x

garrosa-hernandez, E., Carmona-cobo, I., Ladstatter, F., Blanco, L., & Cooper-Thomas, H. (2013). The relationships between family-work interaction, job-related exhaustion, detachment, and meaning in life: A day-level study of emotional well-being—ScienceDirect. *Revista de Psicología Del Trabajo y de Las Organizaciones*, *29*(3), 169–177.

Gelman, A., & Loken, E. (2014). Ethics and Statistics: The AAA Tranche of Subprime Science. *CHANCE*, *27*(1), 51–56. https://doi.org/10.1080/09332480.2014.890872

Gisler, S., Omansky, R., Alenick, P. R., Tumminia, A. M., Eatough, E. M., & Johnson, R. C. (2018). Work-life conflict and employee health: A review. *Journal of Applied Biobehavioral Research*, *23*(4), e12157. https://doi.org/10.1111/jabr.12157

Golden, A. G., & Geisler, C. (2007). Work–life boundary management and the personal digital assistant. *Human Relations*, *60*(3), 519–551. https://doi.org/10.1177/0018726707076698

González-Romá, V., & Gamero, N. (2012). Does positive team mood mediate the relationship between team climate and team performance? *Psicothema*, 94–99.

Googins, B. K. (1991). *Work/family conflicts: Private lives, public responses*. Auburn House New York.

Graham, J. W. (2009). Missing data analysis: Making it work in the real world. *Annual Review of Psychology*, *60*, 549–576. https://doi.org/10.1146/annurev.psych.58.110405.085530

Grandey, A. A., Cordeiro, B. L., & Crouter, A. C. (2005). A longitudinal and multi-source test of the work–family conflict and job satisfaction relationship. *Journal of Occupational and Organizational Psychology*, *78*(3), 305–323. https://doi.org/10.1348/096317905X26769

Grandey, A. A., & Cropanzano, R. (1999). The Conservation of Resources Model Applied to Work–Family Conflict and Strain. *Journal of Vocational Behavior*, *54*(2), 350–370. https://doi.org/10.1006/jvbe.1998.1666

Greenhaus, J. H., & Allen, T. D. (2011). Work–family balance: A review and extension of the literature. In *Handbook of occupational health psychology, 2nd ed* (pp. 165–183). American Psychological Association.

Greenhaus, J. H., & Parasuraman, S. (2002). The allocation of time to work and family roles. In *Gender, work stress, and health* (pp. 115–128). American Psychological Association. https://doi.org/10.1037/10467-008

Greenhaus, J. H., & Powell, G. N. (2006). When Work And Family Are Allies: A Theory Of Work-Family Enrichment. *Academy of Management Review*, *31*(1), 72–92. https://doi.org/10.5465/amr.2006.19379625

Greenhaus, J. H., Ziegert, J. C., & Allen, T. D. (2012). When family-supportive supervision matters: Relations between multiple sources of support and work–family balance. *Journal of Vocational Behavior*, *80*(2), 266–275.

Grzywacz, J. G., & Bass, B. L. (2003). Work, Family, and Mental Health: Testing Different Models of Work-Family Fit. *Journal of Marriage and Family*, *65*(1), 248–261. https://doi.org/10.1111/j.1741-3737.2003.00248.x

Grzywacz, J. G., & Tucker, J. (2008). Work-family experiences and physical health: A summary and critical review. *Sloan Work and Family Encyclopedia*.

Haar, J. M. (2013). Testing a new measure of work-life balance: A study of parent and non-parent employees from New Zealand. *The International Journal of Human Resource Management*, *24*(17), 3305–3324. https://doi.org/10.1080/09585192.2013.775175

Haar, J. M., Roche, M., & ten Brummelhuis, L. (2018). A daily diary study of work-life balance in managers: Utilizing a daily process model. *The International Journal of Human Resource Management*, *29*(18), 2659–2681. https://doi.org/10.1080/09585192.2017.1314311

Haar, J. M., Russo, M., Suñe, A., & Ollier-Malaterre, A. (2014). Outcomes of work–life balance on job satisfaction, life satisfaction and mental health: A study across seven cultures. *Journal of Vocational Behavior*, *85*(3), 361–373. https://doi.org/10.1016/j.jvb.2014.08.010

Hall, D. T., Kossek, E. E., Briscoe, J. P., Pichler, S., & Lee, M. D. (2013). Nonwork orientations relative to career: A multidimensional measure. *Journal of Vocational Behavior*, *83*(3), 539–550. https://doi.org/10.1016/j.jvb.2013.07.005

Hall, D. T., & Richter, J. (1988). Balancing work life and home life: What can organizations do to help? *Academy of Management Perspectives*, *2*(3), 213–223.

Hammer, L. B., Bauer, T. N., & Grandey, A. A. (2003). Work-Family Conflict and Work-Related Withdrawal Behaviors. *Journal of Business and Psychology*, *17*(3), 419–436. https://doi.org/10.1023/A:1022820609967

Hektner, J. M., Schmidt, J. A., & Csikszentmihalyi, M. (2007). *Experience Sampling Method: Measuring the Quality of Everyday Life*. SAGE.

Heller, D., & Watson, D. (2005). The Dynamic Spillover of Satisfaction Between Work and Marriage: The Role of Time and Mood. *Journal of Applied Psychology*, *90*(6), 1273–1279. https://doi.org/10.1037/0021-9010.90.6.1273

Heller, D., Watson, D., & Ilies, R. (2004). The Role of Person Versus Situation in Life Satisfaction: A Critical Examination. *Psychological Bulletin*, *130*(4), 574–600. https://doi.org/10.1037/0033-2909.130.4.574

Hill, E. J., Miller, B. C., Weiner, S. P., & Colihan, J. (1998). Influences of the virtual office on aspects of work and work/life balance. *Personnel Psychology*, *51*(3), 667–683.

Hislop, D., & Axtell, C. (2011). Mobile phones during work and non-work time: A case study of mobile, non-managerial workers. *Information and Organization*, *21*(1), 41–56. https://doi.org/10.1016/j.infoandorg.2011.01.001

Ho, C.-L., & Au, W.-T. (2006). Teaching Satisfaction Scale: Measuring Job Satisfaction of Teachers. *Educational and Psychological Measurement*, *66*(1), 172–185. https://doi.org/10.1177/0013164405278573

Hofmann, D. A., & Gavin, M. B. (1998). Centering Decisions in Hierarchical Linear Models: Implications for Research in Organizations. *Journal of Management*, *24*(5), 623–641. https://doi.org/10.1177/014920639802400504

Hofmann, W., & Patel, P. V. (2015). SurveySignal: A convenient solution for experience sampling research using participants' own smartphones. *Social Science Computer Review*, *33*(2), 235–253. https://doi.org/10.1177/0894439314525117

Hofstede, G., & Bond, M. H. (1984). Hofstede's Culture Dimensions: An Independent Validation Using Rokeach's Value Survey. *Journal of Cross-Cultural Psychology*, *15*(4), 417–433. https://doi.org/10.1177/0022002184015004003

Hsi, S. (2007). Conceptualizing learning from the everyday activities of digital kids. *International Journal of Science Education*, *29*(12), 1509–1529.

Hunthausen, J. M., Truxillo, D. M., Bauer, T. N., & Hammer, L. B. (2003). A field study of frame-of-reference effects on personality test validity. *Journal of Applied Psychology*, *88*(3), 545–551. https://doi.org/10.1037/0021-9010.88.3.545

Huppert, F. A., Baylis, N., & Keverne, B. (2005). *The Science of Well-being*. Oxford University Press.

Huynh, J. Y., Xanthopoulou, D., & Winefield, A. H. (2013). Social support moderates the impact of demands on burnout and organizational connectedness: A two-wave study of volunteer firefighters. *Journal of Occupational Health Psychology*, *18*(1), 9–15. https://doi.org/10.1037/a0030804

Ilies, R., & Judge, T. A. (2003). On the heritability of job satisfaction: The mediating role of personality. *Journal of Applied Psychology*, *88*(4), 750–759. https://doi.org/10.1037/0021-9010.88.4.750

Ilies, R., Lanaj, K., Pluut, H., & Goh, Z. (2018). Intrapersonal and interpersonal need fulfillment at work: Differential antecedents and incremental validity in explaining job satisfaction and citizenship behavior. *Journal of Vocational Behavior*, *108*, 151–164. https://doi.org/10.1016/j.jvb.2018.07.005

Jackson, T., Dawson, R., & Wilson, D. (2001). The cost of email interruption. *Journal of Systems and Information Technology*.

Johnson, J. A. (1997). Units of Analysis for the Descripton and Explanation of Personality. In *Handbook of Personality Psychology* (pp. 73–93). Elsevier. https://doi.org/10.1016/B978-012134645-4/50004-4

Judge, T. A., Bono, J. E., Erez, A., & Locke, E. A. (2005). Core self-evaluations and job and life satisfaction: The role of self-concordance and goal attainment. *Journal of Applied Psychology*, *90*(2), 257.

Judge, T. A., & Ilies, R. (2004). Affect and Job Satisfaction: A Study of Their Relationship at Work and at Home. *Journal of Applied Psychology*, *89*(4), 661–673. https://doi.org/10.1037/0021-9010.89.4.661

Kahneman, D., Krueger, A. B., Schkade, D. A., Schwarz, N., & Stone, A. A. (2004). A Survey Method for Characterizing Daily Life Experience: The Day Reconstruction Method. *Science*, *306*(5702), 1776–1780. https://doi.org/10.1126/science.1103572

Keeney, J., Boyd, E. M., Sinha, R., Westring, A. F., & Ryan, A. M. (2013). From "work–family" to "work–life": Broadening our conceptualization and measurement. *Journal of Vocational Behavior*, *82*(3), 221–237. https://doi.org/10.1016/j.jvb.2013.01.005

Kirchmeyer, C. (1992). Perceptions of Nonwork-to-Work Spillover: Challenging the Common View of Conflict-Ridden Domain Relationships. *Basic and Applied Social Psychology*, *13*(2), 231–249. https://doi.org/10.1207/s15324834basp1302_7

Kirtley, O., Lafit, G., Achterhof, R., Hiekkaranta, A., & Germeys, I. (2020). Making the black box transparent: A template and tutorial for (pre-)registration of studies using Experience Sampling Methods (ESM). *Advances in Methods and Practices in Psychological Science*. https://doi.org/10.31234/osf.io/seyq7

Kossek, E. E. (2015). Capturing social and cultural influences: Relating individual work-life experiences to context. *Community, Work & Family*, *18*(4), 371–376. https://doi.org/10.1080/13668803.2015.1081506

Kossek, E. E., Baltes, B. B., & Matthews, R. A. (2011). How Work–Family Research Can Finally Have an Impact in Organizations. *Industrial and Organizational Psychology*, *4*(3), 352–369. https://doi.org/10.1111/j.1754-9434.2011.01353.x

Kossek, E. E., & Lambert, S. J. (2004). *Work and Life Integration: Organizational, Cultural, and Individual Perspectives*. Psychology Press.

Kossek, E. E., & Ozeki, C. (1999). Bridging the work-family policy and productivity gap: A literature review. *Community, Work & Family*, *2*(1), 7–32. https://doi.org/10.1080/13668809908414247

Kossek, E., & Michel, J. (2010). *Flexible Work Schedules. Handbook of Industrial-Organizational Psychology, 1, 535-572*. Handbook of Industrial-Organizational Psychology, 1, 535-572. https://www.google.com/search?q=Kossek%2C+E.E.+and+Michel%2C+J.+(2010)+Flexible+Work+Schedules.+Handbook+of+Industrial-Organizational+Psychology%2C+1%2C+535-572.&rlz=1C1CHBF_enNZ735NZ735&oq=Kossek%2C+E.E.+and+Michel%2C+J.+(2010)+Flexible+Work+Schedules.+Handbook+of+Industrial-Organizational+Psychology%2C+1%2C+535-572.&aqs=chrome..69i57j69i61.856j0j4&sourceid=chrome&ie=UTF-8

Kossek, E., Valcour, M., & Lirio, P. (2014). The sustainable workforce: Organizational strategies for promoting work–life balance and wellbeing. *Wellbeing: A Complete Reference Guide*, 1–24.

Kreiner, G. E., Hollensbe, E. C., & Sheep, M. L. (2009). Balancing borders and bridges: Negotiating the work-home interface via boundary work tactics. *Academy of Management Journal*, *52*(4), 704–730.

Kulik, L., Shilo-Levin, S., & Liberman, G. (2016). Work–Family Role Conflict and Well-Being Among Women and Men. *Journal of Career Assessment*, *24*(4), 651–668. https://doi.org/10.1177/1069072715616067

Larson, R., & Csikszentmihalyi, M. (2014). The Experience Sampling Method. In M. Csikszentmihalyi (Ed.), *Flow and the Foundations of Positive Psychology: The Collected Works of Mihaly Csikszentmihalyi* (pp. 21–34). Springer Netherlands. https://doi.org/10.1007/978-94-017-9088-8_2

Lesage, F.-X., Berjot, S., & Deschamps, F. (2012). Psychometric properties of the French versions of the Perceived Stress Scale. *International Journal of Occupational Medicine and Environmental Health*, *25*(2), 178–184. https://doi.org/10.2478/S13382-012-0024-8

Leung, L. (2011). Effects Of Ict Connectedness, Permeability, Flexibility And Negative Spillovers On Burnout And Job And Family Satisfaction. *Human Technology*, *7*(3), 250–267. https://doi.org/10.17011/ht/urn.2011112211714

Leung, L. (2020). Exploring the relationship between smartphone activities, flow experience, and boredom in free time. *Computers in Human Behavior*, *103*, 130–139. https://doi.org/10.1016/j.chb.2019.09.030

Liljequist, D., Elfving, B., & Roaldsen, K. S. (2019). Intraclass correlation – A discussion and demonstration of basic features. *PLOS ONE*, *14*(7), e0219854. https://doi.org/10.1371/journal.pone.0219854

Little, T. D., & Rhemtulla, M. (2013). Planned Missing Data Designs for Developmental Researchers. *Child Development Perspectives*, *7*(4), 199–204. https://doi.org/10.1111/cdep.12043

Lomax, T., & Lemon, R. (2007). Demographic Impacts in IT Education: Research Agendas. *PACIS 2007 Proceedings*. https://aisel.aisnet.org/pacis2007/132

Lu, L., Gilmour, R., Kao, S., & Huang, M. (2006). A cross-cultural study of work/family demands, work/family conflict and wellbeing: The Taiwanese vs British. *Career Development International*, *11*(1), 9–27. https://doi.org/10.1108/13620430610642354

Lunau, T., Bambra, C., Eikemo, T. A., van Der Wel, K. A., & Dragano, N. (2014). A balancing act? Work–life balance, health and well-being in European welfare states. *The European Journal of Public Health*, *24*(3), 422–427.

Lyness, K. S., & Judiesch, M. K. (2014). Gender egalitarianism and work–life balance for managers: Multisource perspectives in 36 countries. *Applied Psychology*, *63*(1), 96–129.

Mabe, P. A., & West, S. G. (1982). Validity of self-evaluation of ability: A review and meta-analysis. *Journal of Applied Psychology*, *67*(3), 280–296. https://doi.org/10.1037/0021-9010.67.3.280

MacEwen, K. E., & Barling, J. (1994). Daily consequences of work interference with family and family interference with work. *Work & Stress*, *8*(3), 244–254.

Maertz, C. P., & Boyar, S. L. (2011). Work-Family Conflict, Enrichment, and Balance under "Levels" and "Episodes" Approaches. *Journal of Management*, *37*(1), 68–98. https://doi.org/10.1177/0149206310382455

Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Organizational Behavior*, *2*(2), 99–113.

Mazmanian, M., Orlikowski, W. J., & Yates, J. A. (2013). The autonomy paradox: The implications of mobile email devices for knowledge professionals. *Organization Science*, *24*(5), 1337–1357. https://doi.org/10.1287/orsc.1120.0806

Minnotte, K. L., Gravelle, M., & Minnotte, M. C. (2013). Workplace characteristics, work-to-life conflict, and psychological distress among medical workers. *The Social Science Journal*, *50*(4), 408–417. https://doi.org/10.1016/j.soscij.2013.08.001

Mitchell, A. M., Crane, P. A., & Kim, Y. (2008). Perceived stress in survivors of suicide: Psychometric properties of the Perceived Stress Scale. *Research in Nursing & Health*, *31*(6), 576–585. https://doi.org/10.1002/nur.20284

Mortimer, J. T., Lorence, J., & Kumka, D. S. (1986). *Work, family, and personality: Transition to adulthood.* Ablex Publishing.

Musca, S., Kamiejski, R., Nugier, A., Méot, A., Er-rafiy, A., & Brauer, M. (2011). Data with Hierarchical Structure: Impact of Intraclass Correlation and Sample Size on Type-I Error. *Frontiers in Psychology*, *2*, 74. https://doi.org/10.3389/fpsyg.2011.00074

Muthén, L., & Muthén, B. (2017). *Mplus: Statistical Analysis with Latent Variables: User's Guide (Version 8)*. Authors.

Myin-Germeys, I., Kasanova, Z., Vaessen, T., Vachon, H., Kirtley, O., Viechtbauer, W., & Reininghaus, U. (2018). Experience sampling methodology in mental health research: New insights and technical developments. *World Psychiatry*, *17*(2), 123–132. https://doi.org/10.1002/wps.20513

Myin-Germeys, I., Oorschot, M., Collip, D., Lataster, J., Delespaul, P., & Os, J. van. (2009). Experience sampling research in psychopathology: Opening the black box of daily life. *Psychological Medicine*, *39*(9), 1533–1547.

Netemeyer, R. G., Boles, J. S., & McMurrian, R. (1996). Development and validation of work–family conflict and family–work conflict scales. *Journal of Applied Psychology*, *81*(4), 400–410. https://doi.org/10.1037/0021-9010.81.4.400

Newman, D. A. (2003). Longitudinal Modeling with Randomly and Systematically Missing Data: A Simulation of Ad Hoc, Maximum Likelihood, and Multiple Imputation Techniques. *Organizational Research Methods*, *6*(3), 328–362. https://doi.org/10.1177/1094428103254673

Nezlek, J. B. (2011). *Multilevel Modeling for Social and Personality Psychology*. SAGE Publications Ltd.

Nippert-Eng, C. (1996). *Home and Work: Negotiating Boundaries Through Everyday Life. Chicago, IL: Univ*. Chicago Press.

Nohe, C., Meier, L. L., Sonntag, K., & Michel, A. (2015). The chicken or the egg? A meta-analysis of panel studies of the relationship between work–family conflict and strain. *Journal of Applied Psychology*, *100*(2), 522–536. https://doi.org/10.1037/a0038012

NUNNALLY, JC. (1994). The assessment of reliability. *Psychometric Theory*. https://ci.nii.ac.jp/naid/10014800182/

Ohly, S., Sonnentag, S., Niessen, C., & Zapf, D. (2010). Diary Studies in Organizational Research. *Journal of Personnel Psychology*, *9*(2), 79–93. https://doi.org/10.1027/1866-5888/a000009

Olson-Buchanan, J. B., & Boswell, W. R. (2006). Blurring boundaries: Correlates of integration and segmentation between work and nonwork. *Journal of Vocational Behavior*, *68*(3), 432–445.

Palmer, R. F., & Royall, D. R. (2010). Missing Data? Plan on It! *Journal of the American Geriatrics Society*, *58*(s2), S343–S348. https://doi.org/10.1111/j.1532-5415.2010.03053.x

Palmier-Claus, J. E., Myin-Germeys, I., Barkus, E., Bentley, L., Udachina, A., Delespaul, P. a. E. G., Lewis, S. W., & Dunn, G. (2011). Experience sampling research in individuals with mental

illness: Reflections and guidance. *Acta Psychiatrica Scandinavica*, *123*(1), 12–20. https://doi.org/10.1111/j.1600-0447.2010.01596.x

Parasuraman, S., Greenhaus, J. H., Rabinowitz, S., Bedeian, A. G., & Mossholder, K. W. (1989). Work and Family Variables as Mediators of the Relationship between Wives' Employment and Husbands' Well-Being. *The Academy of Management Journal*, *32*(1), 185–201. https://doi.org/10.2307/256426

Parker, S. K., & Skitmore, M. (2005). Project management turnover: Causes and effects on project performance. *International Journal of Project Management*, *23*(3), 205–214. https://doi.org/10.1016/j.ijproman.2004.10.004

Peeters, M. C. W., Montgomery, A. J., Bakker, A. B., & Schaufeli, W. B. (2005). Balancing Work and Home: How Job and Home Demands Are Related to Burnout. *International Journal of Stress Management*, *12*(1), 43–61. https://doi.org/10.1037/1072-5245.12.1.43

Perry, M. L., & Hammer, L. B. (2017). Work and Family. In M. L. Perry & L. B. Hammer, *Oxford Research Encyclopedia of Psychology*. Oxford University Press. https://doi.org/10.1093/acrefore/9780190236557.013.35

Pheng, L. S., & Chuan, Q. T. (2006). Environmental factors and work performance of project managers in the construction industry. *International Journal of Project Management*, *24*(1), 24–37. https://doi.org/10.1016/j.ijproman.2005.06.001

Piotrkowski, C. S., Rapoport, R. N., & Rapoport, R. (1987). Families and work. In *Handbook of marriage and the family* (pp. 251–283). Springer.

Pos, K., Meijer, C. J., Oukje Verkerk, ·, Onno Ackema, ·, Krabbendam, · Lydia, & Lieuwe De Haan, ·. (2018). *Metacognitive training in patients recovering from a first psychosis: An experience sampling study testing treatment effects*. *268*, 57–64. https://doi.org/10.1007/s00406-017-0833-7

Rajendra Acharya, U., Paul Joseph, K., Kannathal, N., Lim, C. M., & Suri, J. S. (2006). Heart rate variability: A review. *Medical and Biological Engineering and Computing*, *44*(12), 1031–1051. https://doi.org/10.1007/s11517-006-0119-0

Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical Linear Models: Applications and Data Analysis Methods*. SAGE.

Raymo, J. M., Uchikoshi, F., & Yoda, S. (2021). Marriage intentions, desires, and pathways to later and less marriage in Japan. *Demographic Research*, *44*(3), 67–98. https://doi.org/10.4054/DemRes.2021.44.3

Redelmeier, D. A., & Kahneman, D. (1996). Patients' memories of painful medical treatments: Real-time and retrospective evaluations of two minimally invasive procedures. *Pain*, *66*(1), 3–8. https://doi.org/10.1016/0304-3959(96)02994-6

Reichl, C., Leiter, M. P., & Spinath, F. M. (2014). Work–nonwork conflict and burnout: A meta-analysis. *Human Relations*, *67*(8), 979–1005. https://doi.org/10.1177/0018726713509857

Reichl, C., Wach, F.-S., Spinath, F. M., Brünken, R., & Karbach, J. (2014). Burnout risk among first-year teacher students: The roles of personality and motivation. *Journal of Vocational Behavior*, *85*(1), 85–92. https://doi.org/10.1016/j.jvb.2014.05.002

Reis, H. T., & Gable, S. L. (2000). Event-sampling and other methods for studying everyday experience. In *Handbook of research methods in social and personality psychology* (pp. 190–222). Cambridge University Press.

Rendina, H. J., Ventuneac, A., Mustanski, B., Grov, C., & Parsons, J. T. (2016). Prospective Measurement of Daily Health Behaviors: Modeling Temporal Patterns in Missing Data, Sexual Behavior, and Substance Use in an Online Daily Diary Study of Gay and Bisexual Men. *AIDS and Behavior*, *20*(8), 1730–1743. https://doi.org/10.1007/s10461-016-1359-0

Rhemtulla, M., Jia, F., Wu, W., & Little, T. D. (2014). Planned missing designs to optimize the efficiency of latent growth parameter estimates. *International Journal of Behavioral Development*, *38*(5), 423–434. https://doi.org/10.1177/0165025413514324

Rice, R. W., Frone, M. R., & McFarlin, D. B. (1992). Work—Nonwork conflict and the perceived quality of life. *Journal of Organizational Behavior*, *13*(2), 155–168. https://doi.org/10.1002/job.4030130205

Ross, D. S., & Vasantha, S. (2014). A conceptual study on impact of stress on work-life balance. *Sao Om Journal of Commerce & Management*, *1*(2), 61–65.

Rothbard, N. P. (2001). Enriching or Depleting? The Dynamics of Engagement in Work and Family Roles. *Administrative Science Quarterly*, *46*(4), 655–684. https://doi.org/10.2307/3094827

Rothbard, N. P., Phillips, K. W., & Dumas, T. L. (2005). Managing multiple roles: Work-family policies and individuals' desires for segmentation. *Organization Science*, *16*(3), 243–258.

Ruderman, M. N., Ohlott, P. J., Panzer, K., & King, S. N. (2002). Benefits of Multiple Roles for Managerial Women. *Academy of Management Journal*, *45*(2), 369–386. https://doi.org/10.5465/3069352

Saari, L. M., & Judge, T. A. (2004). Employee attitudes and job satisfaction. *Human Resource Management*, *43*(4), 395–407. https://doi.org/10.1002/hrm.20032

Sauter, S. L., Murphy, L. R., & Hurrell, J. J. (1990). Prevention of work-related psychological disorders: A national strategy proposed by the National Institute for Occupational Safety and Health (NIOSH). *American Psychologist*, *45*(10), 1146.

Schepers, J., & Wetzels, M. (2007). A meta-analysis of the technology acceptance model: Investigating subjective norm and moderation effects. *Information and Management*, *44*(1), 90–103. https://doi.org/10.1016/j.im.2006.10.007

Sharp, J. H. (2006). *Development, Extension, and Application: A Review of the Technology Acceptance Model*. *5*.

Shockley, K. M., & Allen, T. D. (2013). Episodic work–family conflict, cardiovascular indicators, and social support: An experience sampling approach. *Journal of Occupational Health Psychology*, *18*(3), 262–275. https://doi.org/10.1037/a0033137

Silberzahn, R., Uhlmann, E. L., Martin, D. P., Anselmi, P., Aust, F., Awtrey, E., Bahník, Š., Bai, F., Bannard, C., Bonnier, E., Carlsson, R., Cheung, F., Christensen, G., Clay, R., Craig, M. A., Dalla Rosa, A., Dam, L., Evans, M. H., Flores Cervantes, I., … Nosek, B. A. (2018). Many Analysts, One Data Set: Making Transparent How Variations in Analytic Choices Affect Results. *Advances in Methods and Practices in Psychological Science*, *1*(3), 337–356. https://doi.org/10.1177/2515245917747646

Silvia, P. J., Kwapil, T. R., Eddington, K. M., & Brown, L. H. (2013). Missed Beeps and Missing Data: Dispositional and Situational Predictors of Nonresponse in Experience Sampling Research. *Social Science Computer Review*, *31*(4), 471–481. https://doi.org/10.1177/0894439313479902

Simmons, J. P., Nelson, L. D., & Simonsohn, U. (2011). False-Positive Psychology: Undisclosed Flexibility in Data Collection and Analysis Allows Presenting Anything as Significant. *Psychological Science*, *22*(11), 1359–1366. https://doi.org/10.1177/0956797611417632

Smith, R. L. (2015). A Contextual Measure of Achievement Motivation: Significance for Research in Counseling. *VISTAS Online*, *1*(14), 1–11. https://doi.org/10.1038/nature04971

Snijders, T. A. B., & Bosker, R. J. (2011). *Multilevel Analysis: An Introduction to Basic and Advanced Multilevel Modeling*. SAGE.

Song, Z., Foo, M.-D., & Uy, M. A. (2008). Mood spillover and crossover among dual-earner couples: A cell phone event sampling study. *Journal of Applied Psychology*, *93*(2), 443–452. https://doi.org/10.1037/0021-9010.93.2.443

Sonnentag, S., & Fritz, C. (2015). Recovery from job stress: The stressor-detachment model as an integrative framework. *Journal of Organizational Behavior*, *36*(S1), S72–S103. https://doi.org/10.1002/job.1924

Spector, P. E., Allen, T. D., Poelmans, S. a. Y., Lapierre, L. M., Cooper, C. L., Michael, O., Sanchez, J. I., Abarca, N., Alexandrova, M., Beham, B., Brough, P., Ferreiro, P., Fraile, G., Lu, C.-Q., Lu, L., Moreno-Velázquez, I., Pagon, M., Pitariu, H., Salamatov, V., … Widerszal-Bazyl, M. (2007).

Cross-National Differences in Relationships of Work Demands, Job Satisfaction, and Turnover Intentions with Work–Family Conflict. *Personnel Psychology*, *60*(4), 805–835. https://doi.org/10.1111/j.1744-6570.2007.00092.x

Spencer, B. (2013, February 11). *Mobile users can't leave their phone alone for six minutes and check it up to 150 times a day*. Mail Online. https://www.dailymail.co.uk/news/article-2276752/Mobile-users-leave-phone-minutes-check-150-times-day.html

Spreitzer, G. M., Cameron, L., & Garrett, L. (2017). Alternative Work Arrangements: Two Images of the New World of Work. *Annual Review of Organizational Psychology and Organizational Behavior*, *4*(1), 473–499. https://doi.org/10.1146/annurev-orgpsych-032516-113332

ten Brummelhuis, L. L., & Bakker, A. B. (2012). A resource perspective on the work–home interface: The work–home resources model. *American Psychologist*, *67*(7), 545–556. https://doi.org/10.1037/a0027974

The Common Sense census: Media use by teens and tweens. (2015). *Common Sense Media*. https://www.commonsensemedia.org/sites/default/files/uploads/research/census_researchreport.pdf

Thompson, E. R. (2007a). Development and validation of an internationally reliable short-form of the Positive and Negative Affect Schedule (PANAS). *Journal of Cross-Cultural Psychology*, *38*(2), 227–242. https://doi.org/10.1177/0022022106297301

Thompson, E. R. (2007b). Development and validation of an internationally reliable short-form of the Positive and Negative Affect Schedule (PANAS). *Journal of Cross-Cultural Psychology*, *38*(2), 227–242. https://doi.org/10.1177/0022022106297301

Toossi, M. (2012). Labor force projections to 2020: A more slowly growing workforce. *Monthly Labor Review*, *135*(1), 43–65.

Towers, I., Duxbury, L., Higgins, C., & Thomas, J. (2006). Time thieves and space invaders: Technology, work and the organization. *Journal of Organizational Change Management*, *19*(5), 593–618. https://doi.org/10.1108/09534810610686076

Trull, T. J., & Ebner-Priemer, U. (2013). Ambulatory Assessment. *Annual Review of Clinical Psychology*, *9*(1), 151–176. https://doi.org/10.1146/annurev-clinpsy-050212-185510

Trull, T. J., & Ebner-Priemer, U. (2014). The Role of Ambulatory Assessment in Psychological Science. *Current Directions in Psychological Science*, *23*(6), 466–470. https://doi.org/10.1177/0963721414550706

Venkatesh, V. (2000). Determinants of Perceived Ease of Use: Integrating Control, Intrinsic Motivation, and Emotion into the Technology Acceptance Model. *Information Systems Research*, *11*(4), 342–365. https://doi.org/10.1287/isre.11.4.342.11872

Venkatesh, V., & Brown, S. A. (2001). A Longitudinal Investigation of Personal Computers in Homes: Adoption Determinants and Emerging Challenges. *MIS Quarterly*, *25*(1), 71. https://doi.org/10.2307/3250959

Venkatesh, V., Brown, S. A., Maruping, L. M., & Bala, H. (2008). Predicting different conceptualizations of system USE: The competing roles of behavioral intention, facilitating conditions, and behavioral expectation. *MIS Quarterly: Management Information Systems*, *32*(3), 483–502.

Viete, S., & Erdsiek, D. (2018). Trust-Based Work Time and the Productivity Effects of Mobile Information Technologies in the Workplace. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3159890

Wajcman, J., Bittman, M., & Brown, J. E. (2008). Families without Borders: Mobile Phones, Connectedness and Work-Home Divisions. *Journals.Sagepub.Com*, *42*(4), 635–652. https://doi.org/10.1177/0038038508091620

Wang, M., Liu, S., Zhan, Y., & Shi, J. (2010). Daily work–family conflict and alcohol use: Testing the cross-level moderation effects of peer drinking norms and social support. *Journal of Applied Psychology*, *95*(2), 377–386. https://doi.org/10.1037/a0018138

Warr, P. (2007). Searching for happiness at work. *The Psychologist*, *20*(12), 726–729.

Watson, D., Clark, L. A., & Tellegen, A. (1988a). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, *54*(6), 1063–1070.

Watson, D., Clark, L. A., & Tellegen, A. (1988b). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, *54*(6), 1063–1070.

Wayne, J. H., Musisca, N., & Fleeson, W. (2004). Considering the role of personality in the work–family experience: Relationships of the big five to work–family conflict and facilitation. *Journal of Vocational Behavior*, *64*(1), 108–130. https://doi.org/10.1016/S0001-8791(03)00035-6

Weick, K. E. (1996). Enactment and the boundaryless career: Organizing as we work. *The Boundaryless Career: A New Employment Principle for a New Organizational Era*, 40–57.

Weiss, H. M., & Rupp, D. E. (2011). Experiencing Work: An Essay on a Person-Centric Work Psychology. *Industrial and Organizational Psychology*, *4*(1), 83–97. https://doi.org/10.1111/j.1754-9434.2010.01302.x

Westrupp, E. M., Strazdins, L., Martin, A., Cooklin, A., Zubrick, S. R., & Nicholson, J. M. (2016). Maternal Work–Family Conflict and Psychological Distress: Reciprocal Relationships Over 8 Years. *Journal of Marriage and Family*, *78*(1), 107–126. https://doi.org/10.1111/jomf.12262

Wheeler, D. L., Vassar, M., Worley, J. A., & Barnes, L. L. B. (2011). A Reliability Generalization Meta-Analysis of Coefficient Alpha for the Maslach Burnout Inventory. *Educational and Psychological Measurement*, *71*(1), 231–244. https://doi.org/10.1177/0013164410391579

Wicherts, J. M., Veldkamp, C. L. S., Augusteijn, H. E. M., Bakker, M., van Aert, R. C. M., & van Assen, M. A. L. M. (2016). Degrees of Freedom in Planning, Running, Analyzing, and Reporting Psychological Studies: A Checklist to Avoid p-Hacking. *Frontiers in Psychology*, *7*. https://doi.org/10.3389/fpsyg.2016.01832

Wohlfahrt-Laymann, J., Hermens, H., Villalonga, C., Vollenbroek-Hutten, M., & Banos, O. (2019). MobileCogniTracker: A mobile experience sampling tool for tracking cognitive behaviour. *Journal of Ambient Intelligence and Humanized Computing*, *10*(6), 2143–2160. https://doi.org/10.1007/s12652-018-0827-y

Yee, N. (2014). *The Proteus Paradox: How Online Games and Virtual Worlds Change Us-And How They Don't*. Yale University Press.

Zhang, X.-C., Siu, O. L., Hu, J., & Zhang, W. (2014). Relationships Between Bidirectional Work-Family Interactions and Psychological Well-Being. *Journal of Personnel Psychology*, *13*(2), 87–96. https://doi.org/10.1027/1866-5888/a000107

Appendix A- Online Advertisement

Kia Ora,

Are you interested in the way your phone use may affect your work and life?

Are you currently employed full-time?
If the above apply to you, we invite you to participate in our study!

We are researchers at the University of Canterbury, who are interested in the interactions between your thoughts on phone use, your actual phone use, and of your work-life balance. Participation will involve you completing a daily survey on your phone or computer each day for a week, as well as a larger initial survey.

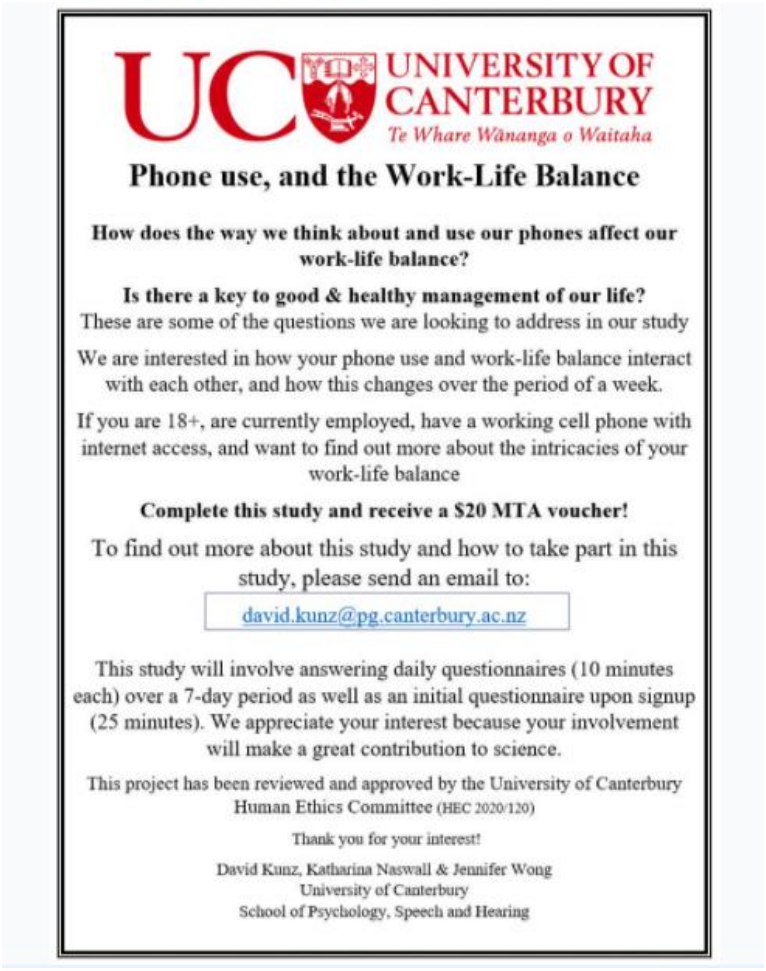
The initial survey should take roughly 15 minutes to complete, while the daily surveys should each take roughly 10 minutes each to complete.

Those who complete the study will be gifted a $20 voucher as a token of our appreciation.

If you are interested in participating, or would like more information, please contact the primary researcher at David.kunz@pg.canterbury.ac.nz.

If you know anyone else who may be interested, please pass this message on to them too!

Thanks,
David Kunz
#work #university #research #science



UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha

Phone use, and the Work-Life Balance

How does the way we think about and use our phones affect our work-life balance?

Is there a key to good & healthy management of our life?
These are some of the questions we are looking to address in our study

We are interested in how your phone use and work-life balance interact with each other, and how this changes over the period of a week.

If you are 18+, are currently employed, have a working cell phone with internet access, and want to find out more about the intricacies of your work-life balance

Complete this study and receive a $20 MTA voucher!

To find out more about this study and how to take part in this study, please send an email to:

david.kunz@pg.canterbury.ac.nz

This study will involve answering daily questionnaires (10 minutes each) over a 7-day period as well as an initial questionnaire upon signup (25 minutes). We appreciate your interest because your involvement will make a great contribution to science.

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee (HEC 2020/120)

Thank you for your interest!

David Kunz, Katharina Naswall & Jennifer Wong
University of Canterbury
School of Psychology, Speech and Hearing

Appendix B- Invite Email

Kia Ora,

Are you interested in the way your phone use may affect your work and life?

Are you currently employed full-time?

If the above apply to you, we invite you to participate in our study!

We are researchers at the University of Canterbury, who are interested in the interactions between your thoughts on phone use, your actual phone use, and of your work-life balance. Participation will involve you completing a daily survey on your phone or computer each day for a week, as well as a larger initial survey.

The initial survey should take roughly 25 minutes to complete and will be sent upon sign-up. The daily surveys should each take roughly 10 minutes to complete and will begin on your next available work week.

Those who complete the study will be gifted a $20 MTA voucher as a token of our appreciation.

If you are interested in participating, or would like more information, please contact the primary researcher at David.kunz@pg.canterbury.ac.nz.

If you know anyone else who may be interested, please pass this message on to them too!

Thanks,

David Kunz

Appendix C- Consent Form

Statement of consent

- I have read the information about this research.
- I understand what is required of me if I agree to take part in this research.
- I understand that any information or opinions I provide will be kept confidential to the researcher and that any published or reported results will not identify the participants. I understand that a thesis is a public document and will be available through the UC library.
- I agree to participate in this research.
- I understand that participation is voluntary, and I am able to cease participating and have my data excluded by closing this browser window at any time.

Selecting Yes, I agree, will allow you to continue to the rest of the questionnaire. Selecting No, I do not, will end the questionnaire here. Alternatively, if you do not consent, no further action is required and you may close this window.

Yes, I agree to participate in this research.	◯
No, I do not want to participate	◯

Appendix D- Information Sheet

Modern Work-Life balance: The role of differing ICT use

Kia Ora! Thank you very much for checking out this research. The current questionnaire seeks to investigate your Smartphone related perception and usage, and how this relates to a few measures of work-life balance. This is further expanded on by including a number of quality of life indicators such as job satisfaction, stress, burnout, and affect. In total this questionnaire is likely to take 25 minutes, as it is used to create a comprehensive baseline of these measures. If you agree to participate, a much shorter questionnaire will be sent to you each day of your next available working week.

What is the purpose of this research?

This research will allow us to examine how your opinion and use of your smartphone relate to your work-life balance and experience.

Who is conducting this research?

- We are researchers in the School of Psychology, Speech and Hearing at the University of Canterbury. David Kunz will be conducting the research, while Professor Katharina Naswall is supervising this project. This project is being carried out as a requirement for the Master of Science in Applied Psychology

What is involved if you agree to participate?

- By participating you confirm that you are over the age of 18, and are currently employed.
- We will ask you to complete this initial survey, and a further 7 daily surveys over a seven-day period. In the surveys you will respond to questions such as "Using my smartphone improves my job performance" or "I felt emotionally drained from my work".
- We anticipate that your active involvement will be roughly 10-15 minutes each day. This first survey will take about 25 minutes and will need to be completed before your first daily survey. We will send you an email at 4:30pm each day where you will have until midnight that day to answer a few short questions (estimated time: 10 minutes per survey).
- You are able to cease participation at any time up until the end of submitting the final survey.
- Those who complete all surveys will receive a $20 MTA voucher as a thank you.

Privacy and Confidentiality

- This survey is completely confidential.
- Your email will be matched to an anonymous code which will allow us to link your responses over time. Once the project is completed, your contact information will be permanently deleted, and the final data set will not have any identifying information about the participants. The presentation of findings will include only aggregated information (i.e, summarised responses rather than individual responses).
- In accordance with the requirements of some scientific journals and organisations, your anonymized survey data may be shared with other qualified researchers.
- A copy of the coded data will remain in the custody of Professor Katharina Naswall from

the School of Psychology, Speech and Hearing at the University of Canterbury.

What happens to the information that you provide?

- The data you provide may be used for one or more of the following purposes:
- The overall findings (but never individual responses) may be submitted for publication
- The overall findings may form part of a student dissertation that will be submitted for assessment. This is a public document and will be available through the UC Library. You may be assured of the complete confidentiality of data gathered in this investigation: your identity will not be made public.
- The overall findings may be used for grant application.

If you would like to know more about the results of this study, please email the primary researcher at david.kunz@pg.canterbury.ac.nz with your interest. Following this you will be provided a summary of the research once it has been completed.

Participation is voluntary and you have the right to withdraw at any stage without penalty. You may ask for your raw data to be returned to you or destroyed at any point. If you withdraw, I will remove information relating to you. However, once analysis of raw data starts, it will become increasingly difficult to remove the influence of your data on the results.

Human Ethics Committee Information

If you have any concerns about the ethical conduct of the research, this project has been reviewed and approved by the University of Canterbury Human Ethics Committee, and participants may forward any complaints to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).
HEC Reference number: HEC 2020/120

Contacts:		
David Kunz MSc APSY student david.kunz@pg.canterbury.ac.nz	Professor Katharina Naswall Phone: 03 369 4332 katharina.naswall@canterbury.ac.nz	Dr. Jennifer Wong jennifer.wong@canterbury.ac.nz

Appendix E- Technology Acceptance

The following items require you to think about your perception of Smartphones.

Please rate the extent to which you agree with each statement.

	Strongly Agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
Using my smartphone improves my job performance.	○	○	○	○	○	○	○
I find my smartphone to be useful in my job.	○	○	○	○	○	○	○
Using my smartphone increases my productivity at work.	○	○	○	○	○	○	○
Interacting with my smartphone does not require much of my mental effort.	○	○	○	○	○	○	○
I find it easy to get my smartphone to do what I want.	○	○	○	○	○	○	○
I find my smartphone to be easy to use	○	○	○	○	○	○	○
People who influence my behaviour at work think that I should use my smartphone.	○	○	○	○	○	○	○
People who are important to me think that I should use my smartphone.	○	○	○	○	○	○	○
People whose views I respect support the use of my smartphone.	○	○	○	○	○	○	○
Using my smartphone can be enjoyable.	○	○	○	○	○	○	○
I believe I have fun using my smartphone.	○	○	○	○	○	○	○
Using smartphones can be exciting.	○	○	○	○	○	○	○
Assuming I have access to my smartphone I intend to use it in the future.	○	○	○	○	○	○	○
Given that I have access to my smartphone, I predict that I will use it in the future.	○	○	○	○	○	○	○

Appendix F- Perceived Work/Life Balance

The Following sections relate to your work, family, and life roles (If you have no children, family might still include partner, parents, siblings, friends, flatmates, etc.).

Please rate the extent to which you agree with each of the following statements.

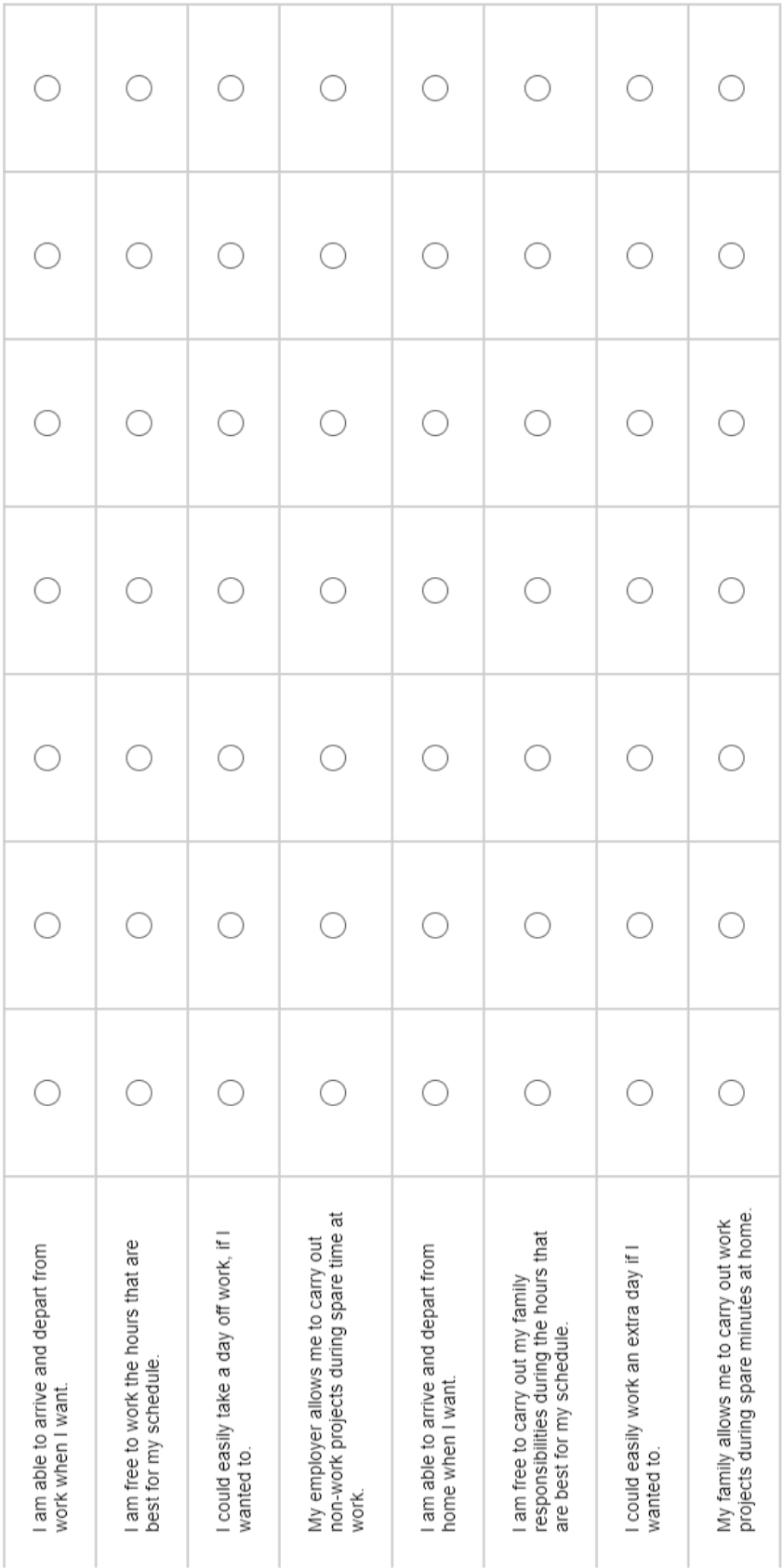
	Strongly Agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
Nowadays, I seem to enjoy every part of my life equally well.	○	○	○	○	○	○	○
I am satisfied with my work-life balance, enjoying both roles.	○	○	○	○	○	○	○
I manage to balance the demands of my work and personal/family life well.	○	○	○	○	○	○	○

Appendix G- Permeability

Please decide how often the following events are likely to occur and select the appropriate response.

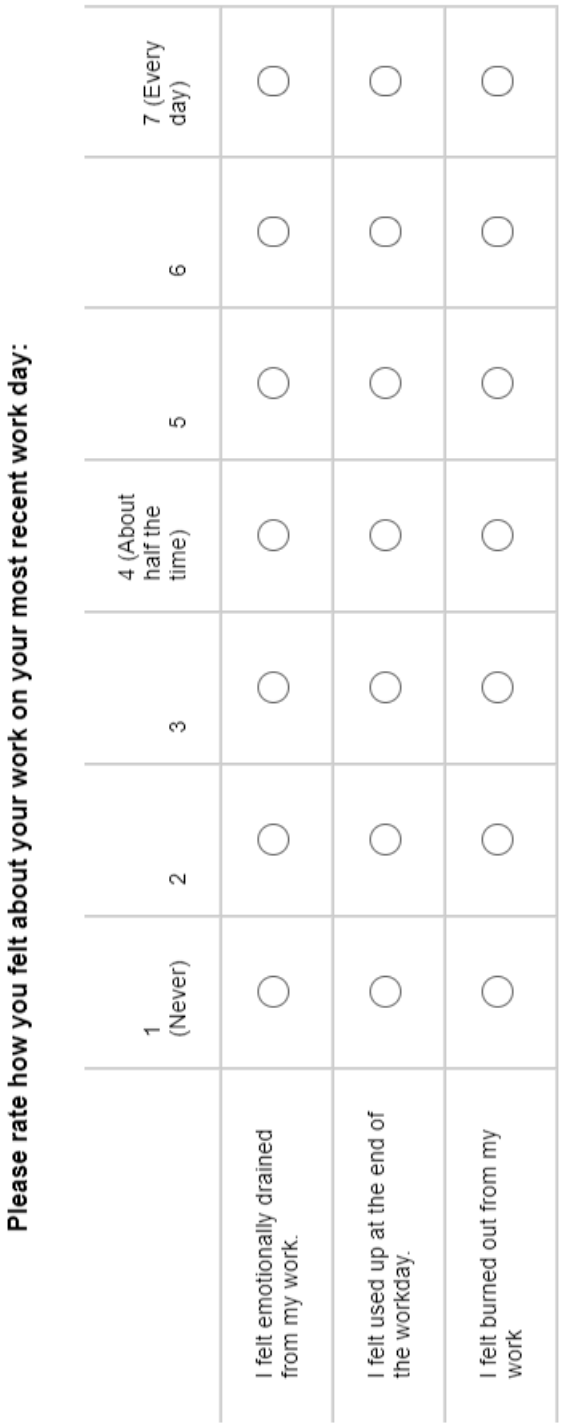
	1 (Never)	2	3	4 (About half the time)	5	6	7 (Always)
My family contacts me while I am at work.	○	○	○	○	○	○	○
I stop in the middle of my work to address a family concern.	○	○	○	○	○	○	○
I hear from my family while I am at work.	○	○	○	○	○	○	○
I take care of family business while I am at work.	○	○	○	○	○	○	○
I receive work related calls while I am at home.	○	○	○	○	○	○	○
I stop in the middle of home activities to address a work concern.	○	○	○	○	○	○	○
I hear from people related to my work while I am at home.	○	○	○	○	○	○	○
I take care of work-related business while I am at home.	○	○	○	○	○	○	○

Appendix H- Flexibility



Appendix I- Burnout Initial and daily

Initial:



Please rate how you felt about your work on your most recent work day:

	1 (Never)	2	3	4 (About half the time)	5	6	7 (Every day)
I felt emotionally drained from my work.	○	○	○	○	○	○	○
I felt used up at the end of the workday.	○	○	○	○	○	○	○
I felt burned out from my work	○	○	○	○	○	○	○

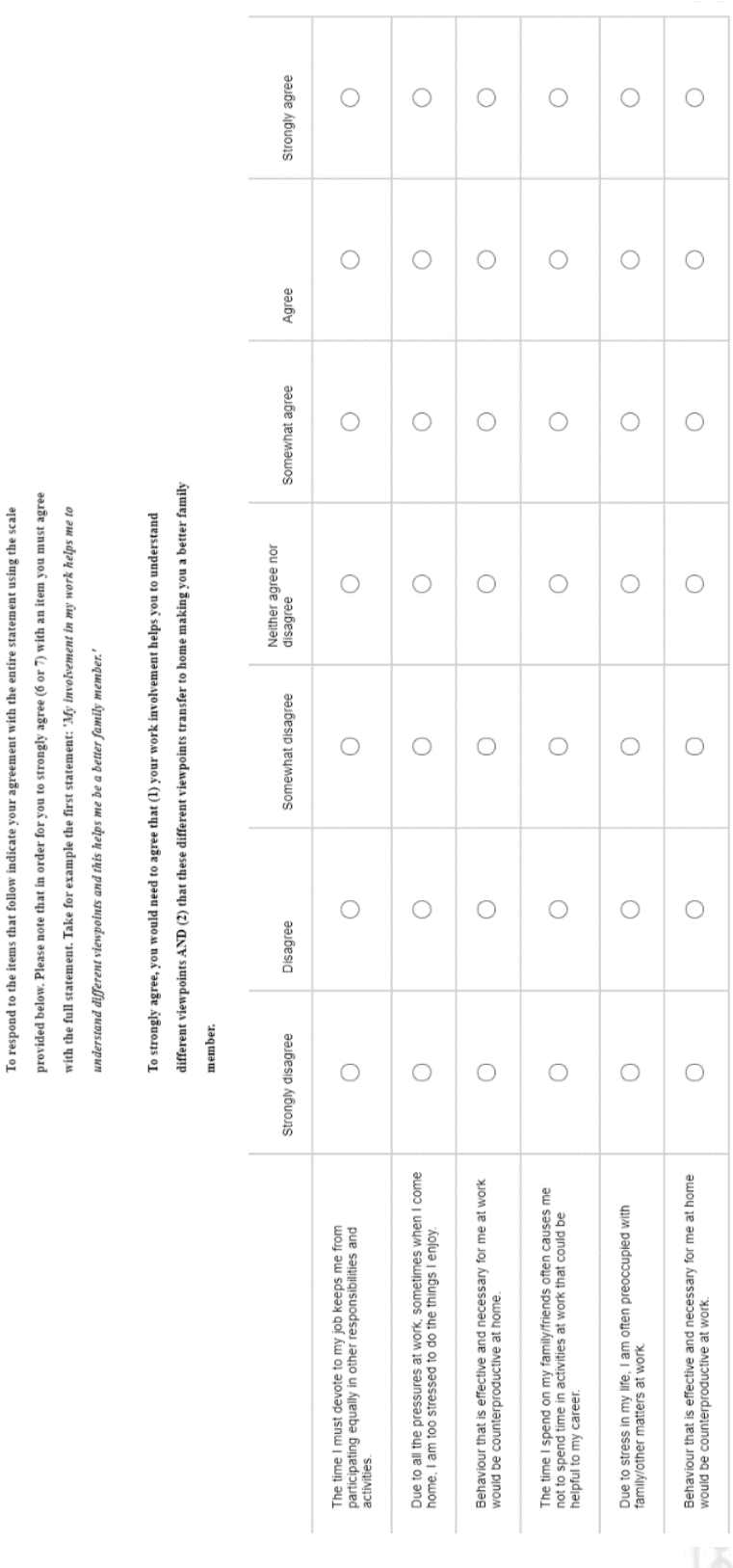
Daily:

Please rate how you felt about your work today:

	1 (Never)	2	3	4 (About half the time)	5	6	7 (Every day)
I felt emotionally drained from my work.	○	○	○	○	○	○	○
I felt used up at the end of the workday.	○	○	○	○	○	○	○
I felt burned out from my work.	○	○	○	○	○	○	○

Appendix J- Work/Life Conflict Initial and Daily

Initial:



To respond to the items that follow indicate your agreement with the entire statement using the scale provided below. Please note that in order for you to strongly agree (6 or 7) with an item you must agree with the full statement. Take for example the first statement: '*My involvement in my work helps me to understand different viewpoints and this helps me be a better family member.*'

To strongly agree, you would need to agree that (1) your work involvement helps you to understand different viewpoints AND (2) that these different viewpoints transfer to home making you a better family member.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
The time I must devote to my job keeps me from participating equally in other responsibilities and activities.	○	○	○	○	○	○	○
Due to all the pressures at work, sometimes when I come home, I am too stressed to do the things I enjoy.	○	○	○	○	○	○	○
Behaviour that is effective and necessary for me at work would be counterproductive at home.	○	○	○	○	○	○	○
The time I spend on my family/friends often causes me not to spend time in activities at work that could be helpful to my career.	○	○	○	○	○	○	○
Due to stress in my life, I am often preoccupied with family/other matters at work.	○	○	○	○	○	○	○
Behaviour that is effective and necessary for me at home would be counterproductive at work.	○	○	○	○	○	○	○

Daily:

To respond to the items that follow indicate your agreement with the entire statement using the scale provided below.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Today, the time I devoted to my job kept me from participating equally in other responsibilities and activities.	○	○	○	○	○	○	○
Today, due to all the pressures at work, I came home, too stressed to do the things I enjoy.	○	○	○	○	○	○	○
Today, I felt that behaviour that is effective and necessary for me at work would be counterproductive at home.	○	○	○	○	○	○	○
Today, the time I spend on my family/friends caused me not to spend time in activities at work that could be helpful to my career.	○	○	○	○	○	○	○
Today, due to stress in my life, I was preoccupied with life and family matters at work.	○	○	○	○	○	○	○
Today, I felt that behaviour that is effective and necessary for me at home was counterproductive at work.	○	○	○	○	○	○	○

Appendix K- Work/Life Enrichment Initial and Daily

Initial:

"My involvement in my work":

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Helps me acquire skills and this helps me be a better family member.	○	○	○	○	○	○	○
Makes me feel happy and this helps me be a better family member.	○	○	○	○	○	○	○
Provides me with a sense of accomplishment and this helps me be a better family member.	○	○	○	○	○	○	○

"My involvement in my life outside of work:"

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Helps me to gain knowledge and this helps me be a better worker	○	○	○	○	○	○	○
Makes me cheerful and this helps me be a better worker.	○	○	○	○	○	○	○
Causes me to be more focused at work and this helps me be a better worker.	○	○	○	○	○	○	○

Daily:

"Today, My involvement in my work":

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Helped me acquire skills and this helps me be a better family member/friend.	○	○	○	○	○	○	○
Made me feel happy and this helps me be a better family member/friend.	○	○	○	○	○	○	○
Provided me with a sense of accomplishment and this helps me be a better family member/friend.	○	○	○	○	○	○	○

"Today, I felt that my life outside of work:"

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Helped me to gain knowledge and this helps me be a better worker.	○	○	○	○	○	○	○
Made me cheerful and this helped me be a better worker.	○	○	○	○	○	○	○
Caused me to be more focused at work and this helps me be a better worker.	○	○	○	○	○	○	○

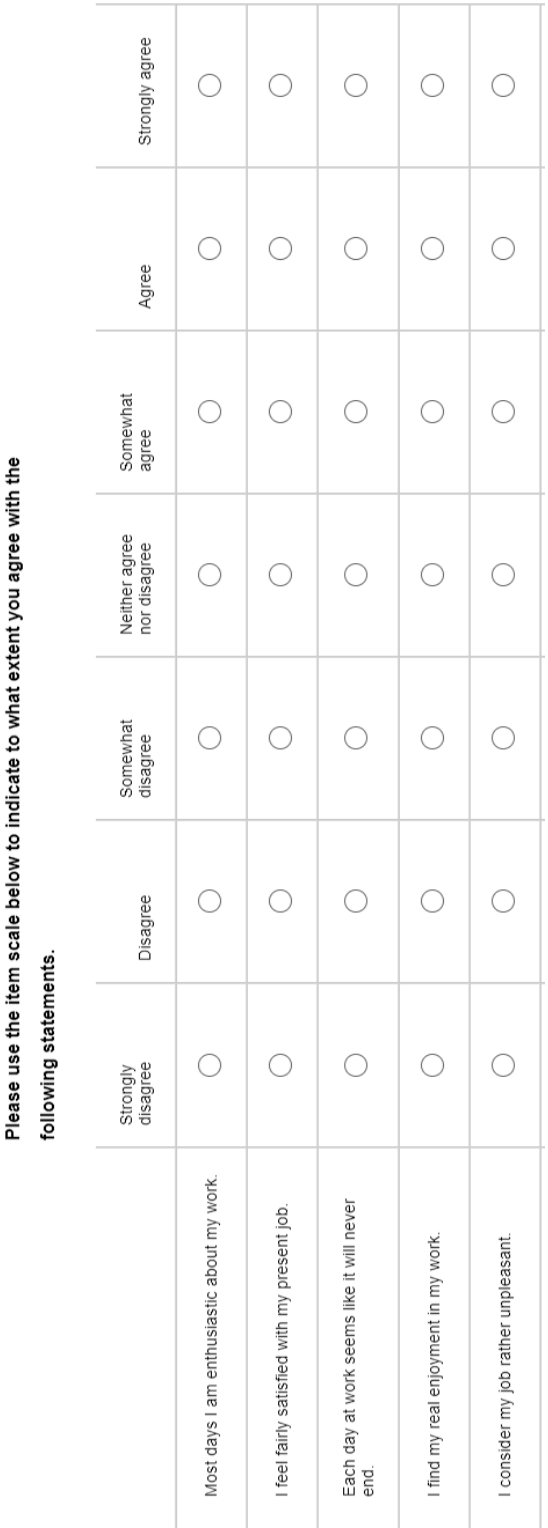
Appendix L- Affect

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer. Indicate to what extent you felt this way today.

	1 (Not at all)	2	3	4	5	6	7 (Extremely)
Active.	◯	◯	◯	◯	◯	◯	◯
Determined.	◯	◯	◯	◯	◯	◯	◯
Attentive.	◯	◯	◯	◯	◯	◯	◯
Inspired.	◯	◯	◯	◯	◯	◯	◯
Alert.	◯	◯	◯	◯	◯	◯	◯
Afraid.	◯	◯	◯	◯	◯	◯	◯
Nervous.	◯	◯	◯	◯	◯	◯	◯
Upset.	◯	◯	◯	◯	◯	◯	◯
Hostile.	◯	◯	◯	◯	◯	◯	◯
Ashamed.	◯	◯	◯	◯	◯	◯	◯

Appendix M- Job Satisfaction Initial and Daily

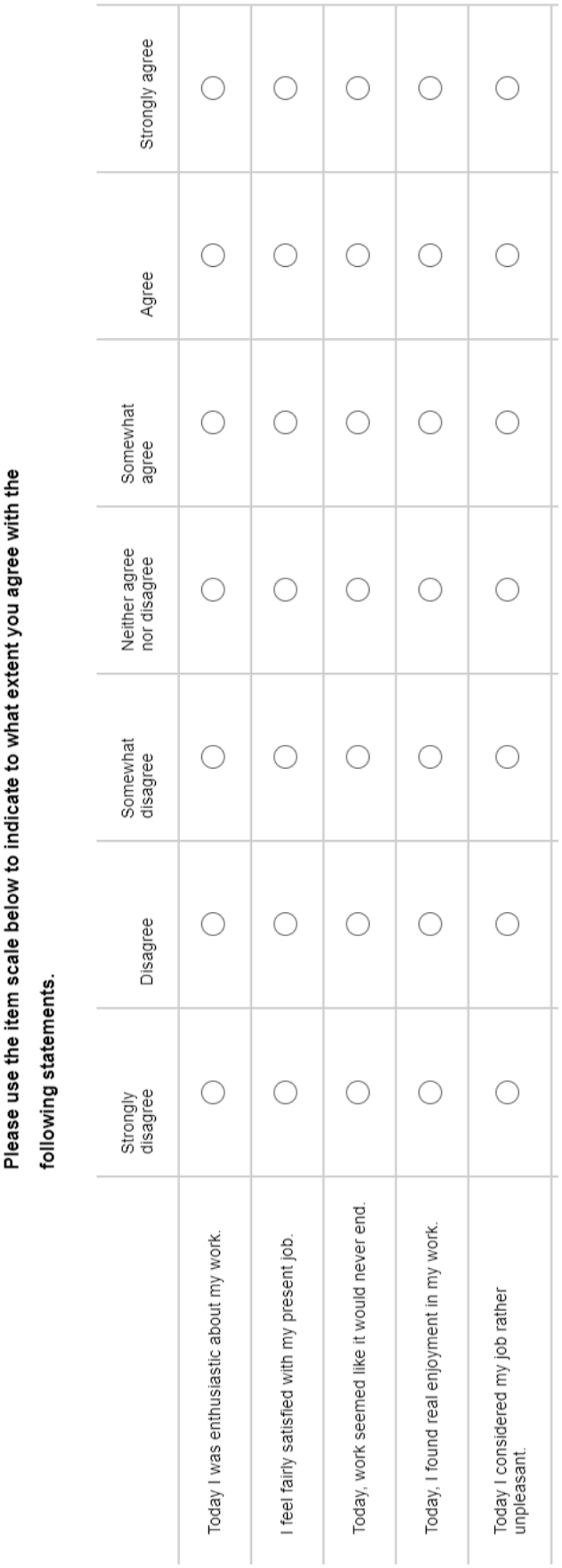
Initial:



Please use the item scale below to indicate to what extent you agree with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Most days I am enthusiastic about my work.	○	○	○	○	○	○	○
I feel fairly satisfied with my present job.	○	○	○	○	○	○	○
Each day at work seems like it will never end.	○	○	○	○	○	○	○
I find my real enjoyment in my work.	○	○	○	○	○	○	○
I consider my job rather unpleasant.	○	○	○	○	○	○	○

Daily:

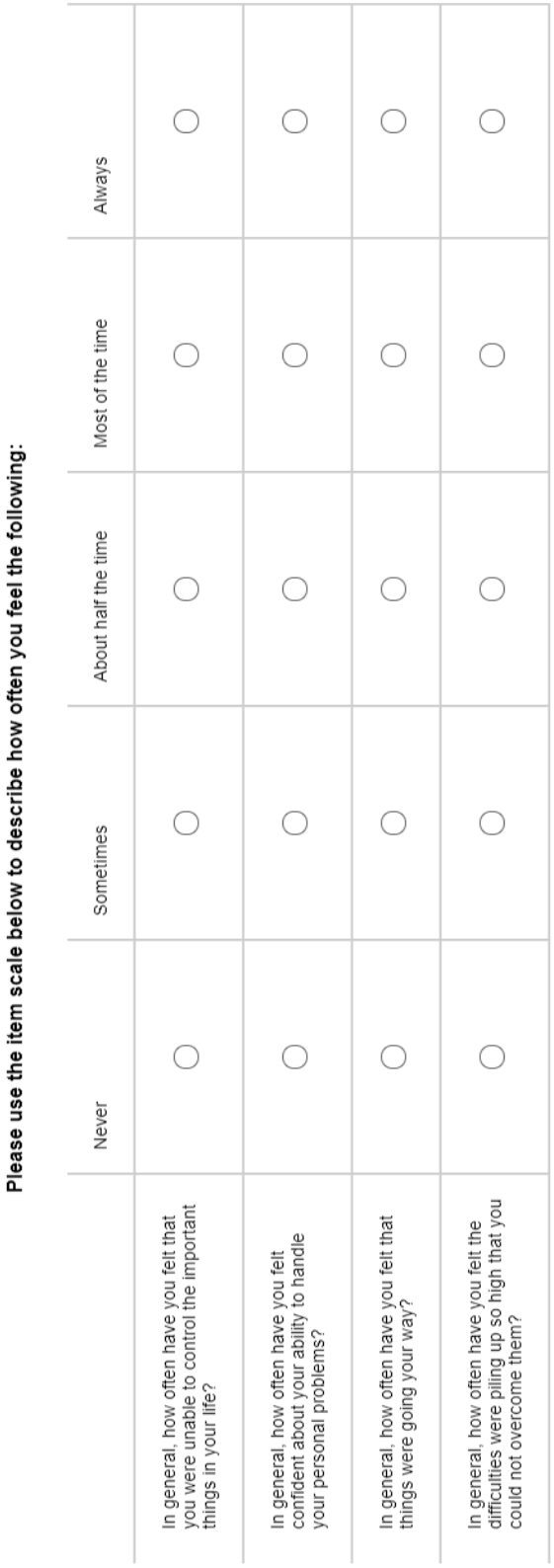


Please use the item scale below to indicate to what extent you agree with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Today I was enthusiastic about my work.	○	○	○	○	○	○	○
I feel fairly satisfied with my present job.	○	○	○	○	○	○	○
Today, work seemed like it would never end.	○	○	○	○	○	○	○
Today, I found real enjoyment in my work.	○	○	○	○	○	○	○
Today I considered my job rather unpleasant.	○	○	○	○	○	○	○

Appendix N- Perceived Stress Initial and Daily

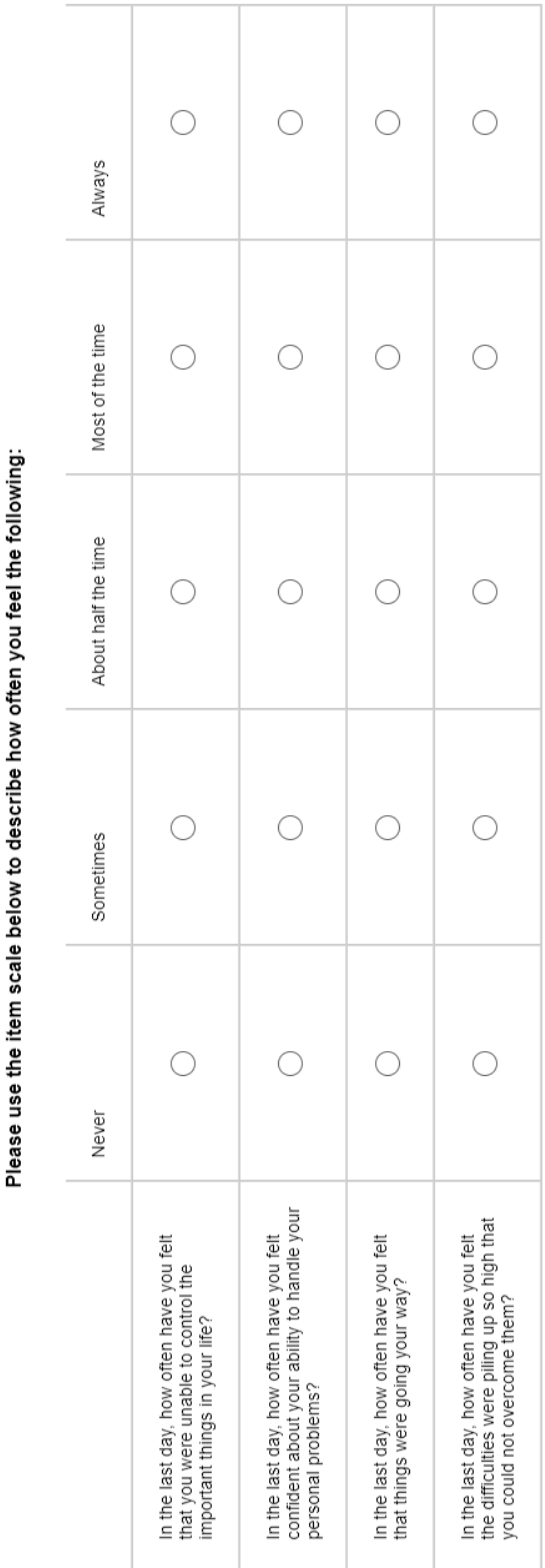
Initial:



Please use the item scale below to describe how often you feel the following:

	Never	Sometimes	About half the time	Most of the time	Always
In general, how often have you felt that you were unable to control the important things in your life?	○	○	○	○	○
In general, how often have you felt confident about your ability to handle your personal problems?	○	○	○	○	○
In general, how often have you felt that things were going your way?	○	○	○	○	○
In general, how often have you felt the difficulties were piling up so high that you could not overcome them?	○	○	○	○	○

Daily:



Please use the item scale below to describe how often you feel the following:

	Never	Sometimes	About half the time	Most of the time	Always
In the last day, how often have you felt that you were unable to control the important things in your life?	○	○	○	○	○
In the last day, how often have you felt confident about your ability to handle your personal problems?	○	○	○	○	○
In the last day, how often have you felt that things were going your way?	○	○	○	○	○
In the last day, how often have you felt the difficulties were piling up so high that you could not overcome them?	○	○	○	○	○

Appendix O- Phone Use Initial and Daily

Initial:

Please indicate how often you use the following features of your smartphone.

	Never	Sometimes	About half the time	Most of the time	Always
Taking selfies and pictures.	○	○	○	○	○
Sending and receiving pictures, video, or audio.	○	○	○	○	○
Listening to music or the radio.	○	○	○	○	○
Watching live streaming or pre-downloaded video	○	○	○	○	○
Playing games (online or otherwise).	○	○	○	○	○
Sending and receiving email messages.	○	○	○	○	○
Using a video phone app (e.g. Skype, Facetime, Zoom	○	○	○	○	○
Using instant messaging (e.g. WhatsApp, WeChat, Facebook Messenger).	○	○	○	○	○
Using social networking services (e.g. Facebook and Instagram).	○	○	○	○	○
Reading online news.	○	○	○	○	○
Searching the internet.	○	○	○	○	○
Using the dictionary.	○	○	○	○	○
Checking the weather.	○	○	○	○	○

Daily

How often did you use the following features of your smartphone today?

	Never	Sometimes	About half the time	Most of the time	Always
Taking selfies and pictures.	○	○	○	○	○
Sending and receiving pictures, video, or audio.	○	○	○	○	○
Listening to music or the radio.	○	○	○	○	○
Watching live streaming or pre-downloaded video.	○	○	○	○	○
Playing games (online or otherwise).	○	○	○	○	○
Sending and receiving email messages.	○	○	○	○	○
Using a video phone app (e.g Skype, facetime, Zoom).	○	○	○	○	○
Using instant messaging (e.g WhatsApp, WeChat, Facebook Messenger).	○	○	○	○	○
Using social networking services (e.g Facebook and Instagram).	○	○	○	○	○
Reading online news.	○	○	○	○	○
Searching the internet.	○	○	○	○	○
Using the dictionary.	○	○	○	○	○
Checking the weather.	○	○	○	○	○

Appendix P- Initial Questionnaire Email

Kia Ora, *participant name*

Here is the initial survey for our study:

Survey link

This survey will provide you with an initial information sheet and consent form, please read these carefully.

You will have until Monday on your week of participation to complete this survey.

If you have any questions about the survey, or study as a whole, do not hesitate to reply to this email.

Thanks,

David Kunz

Appendix Q – Daily Survey Email

Kia Ora, *participant name*

Here is a link to your survey for today:

Survey link

You will have until midnight tonight to complete this.

Please complete it as late in the evening as you are able.

If you have any questions about the survey, or study as a whole, do not hesitate to reply to this email.

Thanks,

David Kunz

Appendix R

Descriptive Statistics

Variable	Mean	Std.Dev.	Min	Max	Cronbach's Alpha
Phone use	1.775	.157	1	4	.826
Initial Phone use	2.675	.344	2	4	.798
Conflict	2.555	.795	1	5	.754
Initial Conflict	3.477	.599	2	5	.483
Enrichment	4.689	.893	1	7	.878
Initial Enrichment	5.494	.660	3	7	.841
Burnout	2.031	1.469	1	6	.933
Burnout initial	2.954	1.393	1	6	.875
Positive Affect	4.283	.988	1	7	.827
Positive Affect initial	4.476	.862	3	6	.781
Negative Affect	1.290	.225	1	4	.787
Negative Affect initial	1.766	.422	1	3	.747
Job satisfaction	4.972	.829	2	7	.660
Job satisfaction initial	5.697	.473	4	7	.714
Stress	1.972	.427	1	4	.696
Stress initial	2.138	.265	1	3	.780
Tech acceptance	2.451	.467	1	4	.814
Work-Life Perception	2.667	.886	1	5	.731
Permeability	3.547	1.350	2	6	.785
Flexibility	4.177	1.283	2	6	.761